

SAIJA HOLLMÉN

# “NOW THE BAOBAB SHINES!”



CULTURAL LOCALITY INTERFACING  
WITH INTERDISCIPLINARY PEDAGOGIES  
IN ARCHITECTURAL EDUCATION



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Hollmén is also a co-founder of Hollmén Reuter Sandman Architects and Ukumbi NGO, which aims at providing architectural services for communities in need.

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*You see things; and you say 'Why?'*  
*But I dream things that never were; and I say*  
*'Why not?'*

George Bernard Shaw (Back to Methuselah)

Isälle  
To my father

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## ABSTRACT

Understanding cultural differences and their relations is necessary in a world marked by the complex discrepancies between various cultural interpretations. As our indigenous culture largely determines the way we see the world, it is only through a conscious decision that we are able to find mutual understanding and a common ground in our search for sustainable solutions to contemporary global challenges.

This thesis discusses global sustainability, cultural locality and humanitarian crises in the framework of architectural design practice and interdisciplinary pedagogies fundamental to integrating the framework into architectural education. It positions the discussion in the context of higher education and explores transdisciplinary and socio-cultural dimensions of architecture and their societal impacts. The overarching research question covering the main themes of the thesis is: *What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?* The aim of this research is to develop a pedagogical framework for interdisciplinary architectural education that would respond to global humanitarian challenges in a variety of cultural contexts. The dissertation is a monograph written in English.

The first part of the research discusses the thematic areas of cultural locality and humanitarian challenges in the framework of architectural practice and presents an ethnographic analysis of data collected from the fieldwork carried out during architectural design projects in low-resource communities in the African context. The research questions framing these discussions are: *‘What is the role of architecture and architects in the context of global humanitarian challenges?’* and *‘What are the cultural features one needs to acknowledge when working in a cultural context other than one’s own?’* The reading of the data initiates a hermeneutic circle, revealing cultural aspects, common denominators and relations that determine spatial arrangements and the ways we as humans conceptualise and inhabit space in different cultural contexts, as well as cultural features affecting the design profession and building processes. The main categories identified are related to a) context, b) culture, c) knowledge and technology and d) society.

Secondly, this dissertation scrutinises interdisciplinary higher education in architecture, and discusses the various pedagogical developments that encourage the accumulation of cultural understanding and the societal development of low-resource communities in an interdisciplinary university context. The thematic research questions are: *‘What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?’* and *‘What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?’*

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**Keywords:** cultural locality, complexity, globalisation, critical regionalism, cross-cultural design practices, architecture, architect’s role, architectural pedagogy, interdisciplinarity, higher education.

The realities described in this book are rooted in real life experiences, tested in the field and discussed in the context of education. The connections of cultural localities in architecture and interdisciplinary university pedagogy become tangible in course planning, studio teaching and in the forging of university programmes that aim at creating connections and entry points between disciplines. Amidst the supercomplexities of our realities, we cannot but accept that this discussion is necessarily open-ended and avoids enclosed definitions; other discussions, dimensions and emerging interpretations are – and should – always be present and possible.



## TIIVISTELMÄ (ABSTRACT IN FINNISH)

Kulttuuristen erojen ja niiden välisten suhteiden ymmärtäminen on olennaista maailmassa, jota leimaavat monitahoiset ja ristiriitaiset tulkinnat. Koska oma kulttuurinen taustamme määrittää tapamme nähdä ja tulkita maailmaa, meidän tulee tietoisesti tavoitella vastavuoroista ymmärtämistä. Näin voimme löytää kestäviä ratkaisuja ajankohtaisiin maailmanlaajuisiin haasteisiin.

Tämä väitöskirja käsittelee globaalikestävyys, kulttuurisen paikallisuuden ja humanitaaristen kriisien teemoja arkkitehtisuunnittelun ja monialaisen pedagogiikan viitekehyksessä. Keskustelu sijoittuu korkeakoulutuksen kontekstiin, ja tutkii arkkitehtuurin monialaisia, sosiokulttuurisia ulottuvuuksia sekä niiden yhteiskunnallisia vaikutuksia. Teemoja yhdistää tutkimuskysymys: *’Mitä tapahtuu arkkitehtuurin, kulttuurien ja tieteenalojen kohtaamisessa yliopistopedagogiikan näkökulmasta?’* Tutkimuksen tavoitteena on kehittää pedagogisia käytäntöjä monialaiselle arkkitehtikoulutukselle, joiden avulla voidaan vastata globaaleihin humanitaarisiin haasteisiin erilaisissa kulttuuriympäristöissä. Väitöskirja on englanninkielinen monografia.

Tutkimuksen ensimmäinen osa käsittelee kulttuurista paikallisuutta ja humanitaarisia haasteita arkkitehtisuunnittelun viitekehyksessä. Se esittelee analyysin etnografisesta tutkimusaineistosta, joka on kerätty kenttätyössä köyhien yhteisöjen kanssa suunniteltujen ja toteutettujen arkkitehtuuriprojektien aikana afrikkalaisessa kontekstissa. Aineistoon liittyvät tutkimuskysymykset ovat: *’Mikä on arkkitehtuurin ja arkkitehdin rooli globaalien humanitaaristen haasteiden kontekstissa?’* ja *’Mitä kulttuurisia erikoispiirteitä suunnittelijan tulee huomioida toimiessaan itselleen vieraassa kulttuuriympäristössä?’* Aineisto tulkitaan asteittain syvenevän hermeneuttisen kehän kautta. Tämän avulla paljastuu kulttuurisia näkökulmia, yhteisiä tekijöitä ja suhteita, jotka määrittävät tilallisia järjestyksiä ja tapojamme käsittää ja hahmottaa tilaa erilaisissa kulttuuriympäristöissä. Toiseksi tutkimus avaa niitä kulttuurisia seikkoja, jotka määrittävät suunnittelua ja rakentamisen prosesseja. Aineistosta tunnistetut kategoriat liittyvät a) kontekstiin, b) kulttuuriin, c) tietoon ja teknologiaan sekä d) yhteiskuntaan.

Väitöskirjan toinen osa tarkastelee monialaista arkkitehtikoulutusta ja pohtii sellaisia pedagogisia kehityskulkuja, joiden kautta voidaan edistää kulttuurista ymmärrystä ja köyhien yhteisöjen yhteiskunnallista kehitystä. Temaattiset tutkimuskysymykset ovat: *’Minkälaisia pedagogisia viitekehyksiä voidaan soveltaa monialaiseen arkkitehtuurikoulutukseen?’* ja *’Minkälaiset yliopistopedagogiset kehityssuunnat lisäävät ymmärrystä kulttuurisesta paikallisuudesta?’*



Kirja kuvaa kenttäolosuhteissa koettuja tapahtumia, ja keskustelee niistä koulutuksen näkökulmasta. Arkkitehtuurin kulttuurisen paikallisuuden ja monialaisuuden yliopistopedagogiikan yhteys tulee näkyväksi kurssi-suunnitelmissa, studio-opetuksessa ja yliopisto-ohjelmissa, joiden avulla tähdätään yhteyksien luomiseen eri tieteenalojen välille. Kulttuurien välinen keskustelu monialaisen korkeakoulutuksen kontekstissa on avointa ja väistää määritelmiä: uudet näkökannat ja tulkinnat ovat aina mahdollisia.



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## PROLOGUE

There is an old African saying: “If you want to go fast, go alone. If you want to go far, go together.”

This book took a long time to write. It eventually came out as the result of a long journey that involved a large number of people: friends and colleagues, communities and authorities, practitioners and philanthropists, students and faculty in academia – people who believe in their good cause and take the initiative to build a deeper understanding of the world and make it a better place – brick by brick.

During my journey, I have felt the sandy wind in my hair, the sound of drums in the sunset by the Atlantic, and the scorching heat of the savannah sun. I have met people who make a living out of pure garbage, but with such pride and dignity that one can only admire. I have seen children who have been born with nothing in life perform fantastic acrobatics with their orphanage siblings. I have witnessed the mere joy of schoolgirls who have been given a safe space to study. The traces carved in my skin by this diversity of life have eventually completed my education as an architect – connected with an embodied cognition of what it means to be human.

This journey has taken me from the university to remote areas of the Senegalese countryside, to the mountains of Tanzania, to the informal settlements of the trash collectors in the city of Cairo, to the narrow alleys of Zanzibar Stone Town and the luxuriant hillsides of Rwanda – and back to academia again. Going to all of these places as part of my work may have been tiring and tedious at times, but it was certainly always inspiring. In the end, it all became meaningful through the eyes of the children we worked with, in the handshake of an old *mzee*<sup>1</sup> sitting on the *baraza*<sup>2</sup> of his house, and through the talks with community representatives. Particularly memorable was the exhilarated remark made by the young constructor of our schoolgirls’ hostel design in Nyang’oro, Tanzania, as he suddenly realised how the building had completely changed the dynamics of the site: “Look, now the Baobab shines!”

Finally, I would come back to the discussions with students and faculty in academia. The university as an institution became a kind of a home base and a counterpoint of reflection that could digest and support the diversity of these realities.

Going away was always difficult. Torn between my responsibilities and my belief that one should strive to work for the *bigger picture*, the journey seemed never ending. Indeed, it is not over: the work continues. This book, however, marks a personal milestone and draws a trajectory that makes perceptible all the past endeavours and the energy invested in them.

The teams I have travelled with have indeed taken me far. With the number of friends I have made along the way, I have no doubt that there will be many miles more to go.

---

1 *mzee* is a respectful Swahili expression for an old man.

2 Swahili expression for a veranda.



Mask, Central Africa.  
PHOTO ANNE KINNUNEN

# PART I

GLOBAL CHALLENGES  
AND CULTURAL LOCALITY

## INTRODUCTION

### 1.1 A WORLD OF SUPERCOMPLEXITIES

In his article for journal *Higher Education Research and Development*, entitled *Learning for an unknown future*<sup>3</sup>, Ronald Barnett discusses the complexities and supercomplexities of the modern world. He describes complexity as a “feature of systems, such that the interactions between their elements are unclear, uncertain and unpredictable... so interwoven that any attempt to engage with any one strand will have repercussive and unforeseeable impacts on many, if not all, of the other strands.”<sup>4</sup> These contradicting demands can lead to real stress: “not just an overload of entities that exhaust the resources available but a situation in which the very engagement with such a set of entities is liable to set off a chain of incalculable events.”<sup>5</sup>

Complexity is a condition most of us face in our daily lives as we struggle to cope with an overflow of information and contradictions in situations of uncertainty and ambiguity. However, these entanglements can be resolved, or, at least, dissolved to a significant degree if there are enough resources and good will.

According to Barnett, supercomplexity is when we find ourselves facing situations that pose challenges that could never be resolved.<sup>6</sup> Questions such as ‘what is a university, a teacher, or an architect?’ are characteristically open-textured, offering a multiplication of diversifying and mutually incompatible interpretations.

Our current societies and contemporary challenges are largely marked by these kinds of irresolvable supercomplexities. In a global and pluralistic world, simple definitions no longer suffice to describe the emerging variables and their interrelations. Therefore, the subtitle of this thesis *Cultural Locality Interfacing with Interdisciplinary Pedagogies in Architectural Education*, refers to the dimensions or projections of multiple frameworks and interpretations of cultures, architecture and university education, not as fixed entities of knowledge, but as elusive and flexible, open and permeable directions or perspectives. Discussing these dimensions can enable us to create a wider and deeper understanding of the unstable and incompatible interpretations of the world and the different ‘architectures’ of our time.

The themes explored in this thesis may ostensibly seem distant from each other. *Cultural locality*, seen from the perspective of architectural practice, and *interdisciplinary pedagogy* do not self-evidently collide in the everyday. However, these themes begin to merge in the context of higher education and contemporary universities and their conditions of supercomplexities.

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3 Barnett, 2012.

4 Ibid.:66-67.

5 Ibid.:67.

6 Ibid..

My own work as a designer and practising architect has mostly taken place in cultural contexts with which I have not previously been familiar. I grew up and studied architecture in Finland. This represents rather a uniform position due to the small population and the somewhat homogeneous Finnish society. Had I not had the opportunity to explore other cultural realities, I might well have contributed to the continuum of the Finnish traditions and interpretations of architecture – which would by no means have been any less meaningful. As it so happened, however, several colleagues and I had the opportunity to become exposed to cultures that then seemed exotic and novel. Thus, I followed a different path. The cross-cultural interaction in the framework of architectural practice that followed developed into an informed synthesis of methods, approaches, research and ways of working and communicating that is profoundly inherent to the condition of complexity. Such open-ended interpretations of architectural practice also raised a variety of curriculum and pedagogical questions about architectural education.

Thus, the explorations in this thesis are rooted in real life experiences, tested in the field, and discussed in the context of university pedagogy. The connections between cultural localities in architecture and interdisciplinary university pedagogy became tangible in course planning, studio teaching and the development of university programmes aimed at creating networks and entry points between different disciplines and cultures.

Amidst the supercomplexities of our realities, we cannot but accept that this exploration is necessarily open-ended and avoids enclosed definitions. Other discussions, dimensions and interpretations are – and should – always be present and possible.

## 1.2 A FEW REMARKS FROM ANTHROPOLOGY

Architecture and anthropology – the ‘science of humanity’ – have always had a common interest in their mutual attempt to understand spatial organisations, different forms of human dwelling and the interplay between social life and physical surroundings.<sup>7</sup> As the anthropologist Marie Stender puts it: “Architecture and anthropology have a common inclination of trying to know more about people than they know about themselves—or at least know about people in a different way.”<sup>8</sup> In her article *Towards an architectural anthropology – what architects can learn from anthropology and vice versa*, she writes about the similarities and differences in the approaches of architects and anthropologists: “Architectural research is inclined to proceed by first intervening, and then observing what comes out of such intervention. Anthropologists, on the other hand, describe the world as it is first before attempting any kind of projection.”<sup>9</sup>

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7 Stender, 2017:27.

8 Ibid.:39.

9 Ibid.:34.



Stender examines the two disciplines' different approaches, making a point about normativity:

Architects are typically not afraid to talk about quality and whether something is good or not; they are skilled in making judgements based on their own 'first-person perspective'. Trained in a paradigm of cultural relativism as many of us are, anthropologists, on the contrary, are more inclined to question such judgements and values—quality according to whom?, good in what perspectives?, what forms of power are at play in aesthetics?, etc.<sup>10</sup>

She later elaborates:

Anthropology has an inherent inclination to question given normativities and power structures, and as a consequence, rather than evaluate whether a building or public space lives up to the initial visions, anthropological research will often take an explorative approach, including such visions as part of the social world studied.<sup>11</sup>

Unlike anthropology, architectural practice is about making value-based judgements. All design choices are grounded on the evaluation of options, of which some are regarded as more preferable than others. This *good – bad, better – worse* axis, this line of argumentation, is embedded at the very core of the profession. It is a sliding scale marked by preferences, where the designer works on a spectrum of value-based alternatives – whether the values be explicit or implicit. As designers, we make judgements on issues that define the qualities of the built environment for a (possibly large) number of people. The values we attach to the issues, as well as the alternatives to choose from, are directly perceptible in the outcome: in our designs and the environment that results.<sup>12</sup>

The architectural profession – and the education of it – aims at acquiring sufficient skills and knowledge to materialise the values which are the prevailing norm of a society. The attribute dwells in the heart of disciplinary education: “There is a key difference concerning normativity between architects trained to cultivate and trust their own firm sense of quality, and anthropologists who, on the contrary, place a virtue in questioning and doubting such givens.”<sup>13</sup>

Professional architectural practice is a demanding exercise, for which the education needs to cover a wide range of practical and epistemological issues. In Finland the contemporary architectural education is primarily concerned with cultivating solid design skills in order to master the basic requirements of a design profession. It is justifiable to argue that architects should be more aware of their normative values and to debate and question the ones behind their design choices. Because, as Stender aptly points out, “architects are typi-

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<sup>10</sup> Ibid.:35.

<sup>11</sup> Ibid.:36.

<sup>12</sup> Conversation with Teemu Hirvilammi, June 25, 2020.

<sup>13</sup> Stender, 2017:39.

cally not afraid to talk about quality and whether something is good or not.”<sup>14</sup>

From the perspective of academic research, however, this disciplinary attribute poses a challenge. Normative arguments are not desirable in academic research that aims at outlining a holistic, wide-ranging and impartial interpretation of the studied phenomena. However, trained as an architect and an educator as I am, I am well acquainted with the tradition of arguing ‘*why a particular design is better than another*’, which is contrary to the position of a traditional academic researcher. I have made my best efforts to refrain from expressing value-based arguments in this thesis, so inherently imbued in my practice – although it is likely that some of it still remains between the lines.

### 1.3 RESEARCH QUESTIONS AND STRUCTURE OF THE BOOK

This thesis explores the global challenges of sustainability, cultural locality and humanitarian crises in the framework of architectural design practice and interdisciplinary pedagogies. It positions the discussion in the context of higher education and explores transdisciplinary and socio-cultural dimensions of architecture and their societal impacts. The overarching research question covering the main themes of the thesis is:

What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?

The purpose of the research is to enhance understanding of cultural conventions that affect architectural design practices, especially in humanitarian contexts with low-resource communities, and to draw on those situations to develop possible pedagogical approaches that can help to scale and repeat such learnings in other contexts as well. The aim of this research is to develop a pedagogical framework for interdisciplinary architectural education that would respond to global humanitarian challenges in a variety of cultural contexts.

The thesis consists of two main sections. PART I discusses the thematic areas of cultural locality, global sustainability and humanitarian challenges in the framework of architectural practice and presents an ethnographic analysis of data collected during fieldwork in order to develop architectural design projects with low-resource communities in Africa. The main research questions in this section focus on the role of architecture and cultural locality:

*What is the role of architecture and architects in the context of global humanitarian challenges?*

*What are the cultural features one needs to acknowledge when working in a cultural context other than one's own?*

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<sup>14</sup> Ibid.:35.

PART II contemplates pedagogies in architecture and interdisciplinary higher education, and their connections to cultural locality and humanitarian challenges. The thematic research questions are:

- What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?*
- What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?*

The final chapter seeks to answer a concluding research question:

- How are cross-cultural design practices informing the curriculum design of an interdisciplinary architectural programme aimed at addressing global humanitarian challenges?*

Finally, some detailed data-related descriptions and relevant background information are presented in the appendix section of the book.

Overarching research question:	What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?	
Aim:	To develop a pedagogical framework for interdisciplinary architectural education, that would respond to global humanitarian challenges in a variety of cultural contexts.	
Research questions:	<b>PART I</b>  What is the role of architecture and architects in the context of global humanitarian challenges?  What are the cultural features one needs to acknowledge when working in a cultural context other than one's own?	<b>PART II</b>  What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?  What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?
Concluding research question:	How are cross-cultural design practices informing the curriculum design of an interdisciplinary architectural program aimed at addressing global humanitarian challenges?	

Figure 1: Research questions.

## 1.4 BACKGROUND AND CONTEXT OF THE RESEARCH

The conditions that led to this research relate to the background of equal opportunity in this Nordic society that has allowed me to take up the kind of work I have found meaningful. I was also fortunate to have had teachers in my education who would open up opportunities for me to explore cultural differences and the dilemmas of global development. I have had the privilege of choice, while so many in this world do not have. This brings along the question of global responsibility: if a person has the choice and the capacity, is it not incumbent on that person to act?

Exploring African cultures from this position bears a particularly wide array of possibilities for misunderstanding. I have interpreted my experiences as a professional in architectural design practices – not from the perspectives of anthropology, sociology or cultural history. I have employed ethnographic methodologies, while remaining aware that my interpretations are necessarily the reflections of my professional background and education.

In this introductory chapter, I present the three institutional contexts and knowledge entities that have contributed to the thinking and composition of my research. The first is the work of Hollmén Reuter Sandman Architects<sup>15</sup>, namely myself, and my colleagues Jenni Reuter and Helena Sandman, which took place in the context of low-resource communities in various African countries. This led to the founding of the Ukumbi NGO.<sup>16</sup> I recount the history and unfolding of our architectural projects and some of the most defining cultural elements in the relevant context.

The second entity is the collaboration and potential further connections between architecture and engineering, which preceded the formation of the School of Arts, Design and Architecture at Aalto University.<sup>17</sup> As a faculty member at the Department of Architecture, I was involved in the work of developing new dimensions for interdisciplinary university education.

The third entity<sup>18</sup> was informed and inspired by the previous two. The Aalto *World in Transition Research Lab* (WiTLAB) is an informal academic unit and a network of researchers and interdisciplinary projects that focus on issues of global development in the context of the built environment.

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<sup>15</sup> See Section 1.4.1 Cases from Hollmén Reuter Sandman Architects

<sup>16</sup> See Section 1.4.2 Ukumbi NGO

<sup>17</sup> See Section 1.4.3 ARTS + ENG Collaboration at Aalto University

<sup>18</sup> See Section 1.4.4 World in Transition (WiTLAB)

#### 1.4.1 Cases from Hollmén Reuter Sandman Architects

The work of Hollmén Reuter Sandman Architects dates back to 1996. Since that time, I have collaborated with my colleagues, Jenni Reuter and Helena Sandman, in projects spanning from art exhibitions, building design and interiors to urban planning. Our partners have often been underprivileged communities around the world where we have paid particular attention to local conditions and the ways people inhabit and make use of the spaces they create for themselves. Collaborative approaches to design processes have characterised our work throughout.

For this research, I have chosen five projects by Hollmén Reuter Sandman Architects that have given me opportunities to reflect upon the meanings of cultural contexts and intercultural communication as related to architectural design practice. My role in these projects has been as a team member: all three of us share equal responsibility for the design, development and implementation of the projects. The five projects are:

1. The Women's Centre in Rufisque, Senegal (1996 - 2001)
2. The TunaHAKI Orphanage in Moshi, Tanzania (2007 - 2009)
3. The A.P.E. Learning Centre in Cairo, Egypt (2010 - 2011)
4. The KWIECO Shelter House in Moshi, Tanzania (2011 - 2015)
5. The Nyang'oro Secondary School Hostel in Iringa, Tanzania (2016 - 2018)

The fact that all five projects are African is a coincidence. They could well have been located elsewhere in the world; their common denominator is that they were all collaborative and participatory projects with low-resource communities, with whom we have worked to find ways of enablement and capacity building for the communities themselves, through architectural means evolved in the ways here described.

The purpose of this section is to describe the framework of these projects: how they appeared, how we approached them, their specific characteristics, and the main outcomes. In the text, the use of 'we' refers throughout to the collaborative partnership of Hollmén Reuter Sandman Architects (HRS). The specific data used for the analysis in this research consists of extensive written field-trip logbooks, which have been coproduced by the three team members during the design and construction of the projects. Chapter 3 details the research design and approaches that were used to analyse these five case studies.

#### 1.4.1.1 The Women's Centre in Rufisque, Senegal (Designed in 1996-2001<sup>19</sup>)

Our first project in the African continent was initiated while we were still university students. It started out as a study project, because we participated in a recently established course, called *Interplay of Cultures*, at the Department of Architecture in Helsinki University of Technology. The course was taught by the architects Hennu Kjisik and Veikko Vasko during the deanship of Juhani Pallasmaa. In 1996, Hennu Kjisik wrote in the foreword of our studio project report:

The Linkage Programme at the Faculty of Architecture of Helsinki University of Technology has, since 1993, been running a course called 'Interplay of Cultures'. The course focuses on culture as the starting point of design, analyses multicultural realities and dwells on problems related to operating in varying cultural surroundings. The course provides, during the autumn term, a comprehensive package on basic development-related issues such as development co-operation terminology [<sup>20</sup>], cultural, environmental and economic sustainability, urbanization and housing, project planning, colonialism and conservation of historical monuments and sites.<sup>21</sup>

Kjisik<sup>22</sup> continues to elaborate the practical arrangements of the course and highlights the importance of a field trip as a culmination of the course.<sup>23</sup> In the early years, the course took the architecture students to Rufisque, Senegal, where Anne Rosenlew, a Finnish sociologist, was the director of a centre of Senegalese-Nordic cultural exchange called 'Centre ARC'. Through her contacts, we met local women groups and learned about their ways of life and livelihoods as well as their habits, needs and aspirations for a better future.<sup>24</sup> In our group of three, we took up the task to design a house for the women and their activities, following a model set by the Senegalese government. The examples of this model that we had seen, however, reflected little recognition of the local ways of taking advantage of the outdoor spaces and courtyards. This inspired us to engage with the women and adapt the design of the centre to the local culture and help to create a sense of local ownership among the women.

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19 Different versions describing the co-written project description by Hollmén, Reuter and Sandman that follows, have been published in several international magazines since 2001, mostly architectural publications, in which the project has been featured as an example of a modest, yet high quality piece of architectural design and participatory planning.

20 Terminologies, e.g., in annual development co-operation reports provided by the OECD, as in Development Co-operation Report, 2012: 289-295. (ref. added by author)

21 Kjisik, 1996:2.

22 Ibid..

23 As will be discussed later in this thesis, the foundations of this course – which is still ongoing – have neither changed nor become obsolete over time. On the contrary, given the contemporary global challenges, the course themes outlined by Kjisik and Vasko continue to raise interest and remain highly topical.

24 Rosenlew, 2002.

The design for the Women's Centre in Rufisque was originally submitted as course work for the *Interplay of Cultures* design studio. The course was an eye opener in many ways and invoked broader thinking of architecture's possibilities for societal impact. After the course, we maintained communication with our collaborators in Senegal, while fundraising for further project development. In the end, the City of Rufisque donated a site for the new women's centre, which marked a turning point: the area was rich with active women groups who were willing to collaborate and contribute to the design of the new centre. To understand the context, we engaged more deeply in a study of local culture and its architectural manifestations. The following observations of the societal situation in Senegal are my own interpretations from late 1990s. The situation may well have changed and evolved since.

The Senegalese society is highly patriarchal, and very much divided by gender. The man's role is that of a provider, whereas the woman carries the responsibility for the family and the children. A woman cannot necessarily expect the husband to contribute to household expenses, not even when he has a steady income. The man wields authority in the family and the woman's role is to tend the home without questioning her husband's actions.

The Women's Centre in Rufisque, Senegal.  
PHOTO JUHA ILONEN





In a city like Rufisque, many of the men are unemployed and cannot easily contribute to family livelihoods. Owing to his position in the society, the husband cannot accept just any job, which makes the position of women considerably harder. Some take refuge in polygamy to share the burden among several women, or, alternatively, they take to the road. It is left to the women to look after the home and the children, to secure food for the table and see to the children's school attendance. Most of the women in Rufisque have some small business of their own, such as selling vegetables in the marketplace, using the income to buy food.

Both men and women keep up the outward signs of male dominance and seemingly this kind of segregation remains an unquestioned norm. The women often get together to form associations with memberships ranging from a few dozen to hundreds. The organisation of active and strong women reflects an attempt to make everyday life easier for its members among the daily hardships and to ensure them a degree of social security. They educate themselves with independent literacy courses, augment their earnings by selling home cooking and handicrafts, and help women who have moved to cities from the country to adjust. The work is organised internally, which means a step forwards from the traditional social networks formed by friends and family.

The new women's centre was designed to provide facilities for the organised functions of the women's groups. The building was erected through the agency of a non-governmental organisation project through the Engineering Society in Finland. Finance came from the Finnish Ministry for Foreign Affairs and the Senegalese-Finnish Association ARC. Local companies supported the project with donations of materials. The Finnish Cultural Foundation and many other Finnish foundations also supported the project with grants.

The site allocated to the project is north of Rufisque, in the drainage area for the rainy season – which is why the plot was vacant. The vicinity was densely built-up with low buildings. We roamed the surrounding streets and alleyways on foot during the design phase to get an idea of the scale of the district; it was important for the Women's Centre to be appropriate to the neighbourhood structure. In West African style, the building is grouped around a central courtyard; the dividing line between private and public is clear, albeit flexible. The simplicity of the street fronts suits the building to its environs. A corner opening onto a crossroads forms a small public square, which retailing facilities face on to. The red colouration gives the building a unique identity in the prevailing grey of the neighbourhood.

The choice of materials favours local and recycled matter: for example, wood was used only where it could not be replaced with anything else. The biggest cement plant in West Africa is situated just outside Rufisque, making cement a local material. The building was therefore made of concrete rather than, for example, clay brick, for which the local clay is not suitable.

The clayey soil made it necessary to cast a fairly strong foundation, which is regrettably not the usual practice in the region. We also commissioned the appropriate structural designs and strength calculations for the Women's



Centre, which we hoped would have an educational effect on local construction methods and our local builders.

The skeleton of the building was cast on site as a concrete column-and-beam structure, with the walls made of in-situ concrete blocks. The roofing consists of corrugated iron supported on steel beams and the ceiling of thick woven straw matting. The space between the roof and ceiling is ventilated, keeping the air inside comfortably cool. Other details include recycled wheel rims as ventilation covers and old bottle bottoms for light apertures. The steel bars used in the reinforced concrete are of recycled metal.

Cultural and ecological sustainability were the main drivers of the project, as well as local participation – both in design and construction. In the inauguration ceremony, the members of the local communities praised each other for the accomplishment, parenthetically mentioning in a subordinate clause the ‘Finnish ladies who helped us a little’ – which for us, was the ultimate sign of success: we had made ourselves unnecessary.

The Centre continues in active use today, managed by a women’s association. It even suffers from overuse, due to lack of similar spaces nearby, which tells of the urgent need of such buildings, carried out with cultural sensitivity.

After the project was completed in 2001, it became one of the most internationally published Finnish architectural projects of the first decade of the 2000s. It has also been awarded several international prizes and awards. This was partly because it was one of the first projects of its kind, where the ‘awakening’ of western architects led them to take up small-scale projects in underprivileged communities, to the extent that it became something of a trend. This new awareness of social injustice and a striving for professional contributions has resulted in a series of quite meaningful and superb pieces of architecture, where the local communities have truly been involved, their self-esteem and dignity asserted through respectful architecture. But as in every trendy phenomenon, there have also been many projects that have stemmed from ambitions other than the wellbeing of the local community.<sup>25</sup>

The international attention the centre was gaining came as a surprise, and it took us a few years to reflect on what we had actually accomplished. In parallel to this, Anne Rosenlew, the sociologist behind the whole endeavour, established an NGO called Punaisen talon ystävät ry, (Les Amis de Käräjä Xonk, or Friends of the Red House), which supported the women’s groups and helped structure their functions in the beginning. Through the NGO, we were able to follow up what was happening in the Centre, how the functions were evolving and how it affected the lives of the members of the women group in the long run.

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25 The problematics and contradictions of this trend are discussed further in Section 2.2 of this book.

#### 1.4.1.2 TunaHAKI Orphanage in Moshi, Tanzania (Designed in 2007-09)

In 2007, we became connected with TunaHAKI Foundation and its founder Scott Fifer through Architecture for Humanity.<sup>26</sup> TunaHAKI Foundation was collaborating with David and Mary Ryatula, a couple that had set up a small shelter, called TunaHAKI<sup>27</sup>, to host AIDS orphans and street children in Moshi, in the Kilimanjaro Region of Tanzania.

The TunaHAKI Orphanage Centre provides each child with shelter, food, clothing, medical care, and ensures that each child attends school. It also encourages training in the arts, using acrobatics, dance, music and drama as life-saving tools. Through therapeutic arts training, the children gain self-esteem, learn cooperation skills, and they are able to form something many of them have never had: a family. All children at the Centre are also encouraged to develop their skills through vocational training.<sup>28</sup>

TunaHAKI Foundation had acquired a piece of land and appointed Hollmén Reuter Sandman Architects to design the orphanage, while Armstrong + Cohen Architecture, a US based office, would design the theatre part included in the project. The Foundation was to collect the funding for the construction, whereas the design was funded by grants (as per Hollmén, Reuter and Sandman, mainly from Finnish foundations).

The orphanage was to include dormitories for boys and girls, a classroom, library and spaces for other familiar activities. The hierarchy of the architecture followed the local Tanzanian building tradition, influenced by the traditional house of the Chagga people, who live in the Kilimanjaro region. The architectural challenge was to create an environment that would be local and familiar to the children, emphasising their insight of their own cultural characteristics, and at the same time be modern, timeless and sustainable.

Environmental aspects were taken into consideration in every step of the design, including local building materials, waste management, rainwater collection, wind and solar energy, ecological sanitation with biogas production from human waste, grey water treatment and natural ventilation through underground air ducts. The buildings and technologies were designed to be low maintenance. Local manpower was to be used to promote the engagement of the whole community.<sup>29</sup>

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26 "Architecture for Humanity was a US-based charitable organisation that sought architectural solutions to humanitarian crises and brought professional design services to clients (often communities in need). Founded in 1999, it laid off its staff and closed down at the beginning of January 2015. Since then, the 59 US-based architecture for humanity chapters (which were already operating more or less in a self-sufficient manner even before Architecture for Humanity closed down) formed the Open Architecture Collaborative and vowed to continue. It could thus be argued that despite the closing of the main office, the movement that Architecture for Humanity represented has indeed been strengthened, and not weakened, as it has forced the chapters to operate truly self-sufficiently, and cooperate more directly with the other chapters." "Architecture for Humanity." [https://en.wikipedia.org/wiki/Architecture\\_for\\_Humanity](https://en.wikipedia.org/wiki/Architecture_for_Humanity), accessed April 23, 2019.

27 TunaHAKI is a Swahili expression meaning: "We have rights".

28 Hollmén et al., 2010.

29 Ibid..

The project received the building permit from Moshi municipality in 2007, but eventually it never reached the construction phase. Despite this, the architectural design, albeit not built, received the Holcim Foundation Acknowledgement Award for Sustainable Architecture in 2008. It was influential also on a local level: our design included recycled materials, which had inspired our local consulting architect Mr. Karawa to suggest some of our interventions to his Tanzanian clients. Mr. Karawa later told us that had he come up with such ideas himself, his local clients would not have taken him seriously, but since he could introduce the ideas as coming from European architects, they were ultimately approved.



TunaHAKI Orphanage in Moshi, Tanzania.  
PHOTOS STEFAN BREMER



#### 1.4.1.3 A.P.E. Learning Centre in Cairo, Egypt (Designed in 2010-11)

The Zabbaleen people are waste management experts living in the outskirts of the city of Cairo, Egypt. They make their living out of trash, by recycling almost everything they collect. As a community belonging to the Coptic Christian minority, they are descendants of migrants who came from the southern parts of Egypt in the 1930s.

The Association for the Protection of the Environment (A.P.E.) has been working to improve the rough living conditions of the Zabbaleen for decades, to improve their wellbeing, education and awareness of the environment. The Finnish embassy in Cairo has also supported the work, and approached Ukumbi<sup>30</sup>, the non-for-profit organisation we had founded to help formalise our societal projects, for consultation in an architectural challenge.

A.P.E. was determined to build a Learning Centre in the middle of an area inhabited by the Zabbaleen, in order to respond to the growing needs of the community and to support the basic education of their children. The problem was that the local architect had not reached a satisfactory quality in his proposed design. He had, for example, suggested felling all the great trees that are the only 'lungs' within the densely built and populated area. A.P.E. hoped to discuss alternative solutions.

In March 2010, we agreed to redesign the Learning Centre – and this had to be done quickly, since the opportunity was there: funding and political support were secured. Supported by the Finnish Ministry for Foreign Affairs and some Finnish foundations, we designed a Learning Centre that would reflect the Egyptian culture and spatial hierarchy<sup>31</sup>. Local materials, renewable energies and water recycling were emphasised, as well as local manpower and know-how. Recycled materials invented by A.P.E. were to be used, to give a positive example to the Zabbaleen, communicating that the work they do in trash recycling is important and dignified. The new A.P.E. Learning Centre was designed to inspire the whole community, with possibilities to engage the people of Mokattam in the project on multiple levels.

During 2010, we worked in close collaboration with A.P.E. members and local professionals who were appointed to construct the Learning Centre. The excavation of the site had already started when we submitted the building permit application in late 2010. The permit was to be granted within a month – but then comes January 25, 2011, and the Arab Spring shook up the country. In the aftermath of the revolution, the long-awaited building permit is still on hold.

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30 Ukumbi NGO was founded by Hollmén, Reuter and Sandman in 2007, to offer architectural services for communities in need. The organization is presented in more detail later in this chapter.

31 By spatial hierarchy, I mean the ways people inhabit, occupy and organize their spaces in terms of built environment.





A.P.E. Learning Centre in Cairo, Egypt.



The Zabbaleen community, Mokattam, Cairo, Egypt.  
PHOTO STEFAN BREMER

## **THE ZABBALEEN – THE GARBAGE COLLECTORS OF CAIRO<sup>32</sup>**

The Zabbaleen are Coptic Christians who moved to Cairo from the southern parts of Egypt in the 1930s. They were farmers and stockbreeders who came to Cairo for better living opportunities. The number of the Zabbaleen living in Cairo exceeds 100,000.

The Zabbaleen are independent practitioners. Men and children get up early in the morning and start collecting the garbage of Cairo. Solid waste was earlier transported using donkey carts, nowadays mostly by trucks. Women and children sort the garbage at their homes. Organic waste is given to the animals. Glass, metal, paper, plastic and other materials, which can be sold, are sorted into different piles. Then they are packed and sent forward.

City officials of Cairo tried to change waste disposal practices in Cairo during the 1990s. They started to hand out licences to collect garbage to registered enterprises. However, the reforms of waste disposal have proceeded slowly. The self-employed Zabbaleens are not very interested in working at these companies, because they hire only adult males and pay a low salary. The Zabbaleens still collect garbage, but their position has changed. Many of them have to collect garbage from the official trashcans, which is illegal. The smaller amount of collected garbage has made the income level of Zabbaleen families lower. They do not have the money to send children to school and poverty has also created many other social problems.

### **The Supporters of the Zabbaleen**

Starting from the 1980s, many non-profit organisations have helped the Zabbaleen through introducing innovative and inexpensive technologies to improve their work. Numerous project and training workshops were held to demonstrate recycling activities in plastic, melted metals, paper and collected remnants from used clothes or rejects from textile industries. At the same time new materials have been developed. The organisations have also helped improve the living conditions through introducing much needed health and education services for adults and children. The Zabbaleen were very vulnerable and were exposed to many different diseases they contracted in handling, working and living in a garbage collector's community.

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32 The box contains an abstract of a text originally provided by the A.P.E. in 2012, at the occasion of the exhibition at the Helinä Rautavaara Museum in Espoo, featuring the Zabbaleen community: "Masters of Recycling - Learning Centre for the Zabbaleen of Cairo" 26.9.2012-6.1.2013. The original idea of the exhibition was to present the Learning Centre building, but due to the circumstances, we decided to highlight the recycling efforts of the Zabbaleen community instead.

A group of Egyptians, both Christians and Moslems, concerned with the state of the environment and the substandard life of the Zabbaleen founded in 1984 an organisation called The Association for the Protection of the Environment (A.P.E.). It is a private voluntary organisation with its headquarters in the Manshiyet Nasser area of Cairo, Egypt. The Association's goals are both to improve living standards within Zabbaleen, the trash collector communities, and to protect the environment through creation of a better understanding of the dynamics of household garbage collection in urban areas, and promotion of waste reduction, reuse and recycling initiatives. The organisation implements programmes in areas populated by the Zabbaleen. It runs a day care centre and an afternoon club for kids in Mokattam, where children of neighbouring families also go. The organisation believes in the benefits of educating the girls, as about half of Egyptian women are illiterate.



A.P.E. Learning Centre in Cairo, Egypt.

#### 1.4.1.4 KWIECO Shelter House in Moshi, Tanzania (1<sup>st</sup> phase completed in 2015)

Although the TunaHAKI Orphanage in Moshi was never built, our time and grass roots research in Tanzania was not wasted. During the design phase of the orphanage, we had been looking for women's organisations in the Kilimanjaro area, and found a remarkably strong one: The Kilimanjaro Women Information Exchange and Community Organisation (KWIECO).<sup>33</sup> Founded in 1987, the non-profit and non-governmental organisation has served the vulnerable populations of Kilimanjaro region to improve the condition of Human Rights and Gender in the area. It is a well-structured and professionally managed NGO, with notable results, committed personnel and leadership. By the time Ukumbi / Hollmén Reuter Sandman Architects and KWIECO started discussing in 2008, KWIECO had long hosted victims of domestic violence and leased premises for short-term accommodation to help them rebuild their lives. KWIECO had already drafted a project plan for the Shelter as we arrived in their office.

Ukumbi and KWIECO formally agreed that Hollmén Reuter Sandman Architects would design the Shelter House, and together they would apply for project support to civil society organisations from the Ministry for Foreign Affairs of Finland. The Ministry decided in favour of the project and granted three-year funding for the KWIECO Shelter House project. According to the governmental rules, however, land acquisition could not be included in the financing. It was not until 2012 that KWIECO was able to buy a plot for the Shelter and we could start the architectural design.

The original design included accommodation for the vulnerable victims of domestic violence, as well as office spaces for KWIECO programmes and activities. However, during the years KWIECO was fundraising for the land, the construction costs in Tanzania almost tripled, due to the international financial crisis. By the time the final quotations came in, we noticed we could not complete the whole project with the available Ministry funding. We decided to build the shelter accommodation first, in order to meet the original purpose of the project. Fundraising to complete the 2<sup>nd</sup> stage of the project would continue.

The architecture of the Shelter House is designed to respect the Tanzanian culture, climate and spatial hierarchy. Local materials, renewable energies, local manpower and know-how are of importance, as well as participatory planning to ensure the feeling of shared ownership among the local community. In order to provide the clients of the Shelter with a safe environment for protection and healing, the Shelter is situated in the inner half of the plot, whereas the 2<sup>nd</sup> phase of the project will create a protecting volume for the Shelter. The design solutions are made to minimise environmental impacts, taking into account local conditions and making use of all possible resources.

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33 KWIECO. "Kilimanjaro Women Information Exchange and Community Organization." <http://www.kwieco.org/>, accessed June 19, 2019.





The KWIECO Shelter House in Moshi, Tanzania.  
PHOTO JUHA ILONEN

Large covered open-air areas allow natural ventilation and free air movement within the building, providing shade and protection from rain. Covered outdoor spaces are used for meetings and seminars. Roof windows provide daylight to the rooms, thus minimising the need for electrical lighting during daytime. Glass bricks are made out of recycled bottles, to create ambiance and bring colourful light into the toilets. The roof structure has a ventilated layer as insulation between the corrugated iron roof and the ceiling. In some rooms the ceiling is made of banana leaves.

The doors of the shelter have a metal frame with bamboo as surface material. The main gate refers to a culturally important habit among Tanzanian women: a *kanga* skirt with a printed message is worn to deliver a subtle message to her friends or a guest. The Swahili words on the *kanga* of the main gate have the meaning: ‘Equal rights for all are the basis of development’.

The Shelter was completed in 2015 and has since considerably strengthened KWIECO’s capacity to fight gender-based violence in the Kilimanjaro area.

### **KWIECO's story<sup>34</sup>**

Kilimanjaro Women Information Exchange and Community Organisation (KWIECO) is a Non-Governmental Organisation, legally registered and predominantly operating in the Kilimanjaro Region, in the Northern part of the United Republic of Tanzania.

KWIECO provides free legal aid, human rights awareness, economic empowerment to marginalised women, temporary shelter support to women survivors of gender-based violence. They run advocacy campaigns for gender equality and women's human rights protection through collaborative approaches. KWIECO was founded in 1987 by a group of 10 women. KWIECO's identity today is a human rights and gender organisation. In 1991 it was registered as a Non-Governmental Organisation under the Societies Act.

KWIECO's vision is to be an active organisation that empowers societies to be able to take responsibility to protect people's equal rights in Tanzania. Their mission is to have a community that respects people's equal rights through the sharing of knowledge of rights, providing equal access to legal and economic services to marginalised people and lobbying for changes. KWIECO over the years has been able to:

Create legal and human rights and gender awareness to communities. Access justice to marginalised people through legal counselling which is now decentralised to District and Ward levels and to offer court representation support.

Participate in the Constitutional Review process and coordinate the Kilimanjaro network to increase the Kilimanjaro women's voices. Manage a women's shelter for survivors of gender-based violence. Survivors of violence and accompanying children are provided with basic needs, legal and psychosocial support, skills development and help with resettlement. Provide economic empowerment to marginalised women, which ensures women have increased access to control and ownership of economic resources as a means to overcome gender-based violence. Different strategic stakeholders at local, regional and national levels have been involved in KWIECO's project implementation process. This includes local government authorities, police gender desks, social welfare officers, clan leaders, teachers, religious leaders, journalists and other civil society organisations.

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34 KWIECO. "KWIECO's Story." <https://www.facebook.com/KWIECOMOSHI/>, accessed June 19, 2019.

#### 1.4.1.5 Nyang'oro Secondary School Girls' Hostel in Iringa, Tanzania (Designed in 2016-18)

Lyra In Africa is a UK/Tanzanian-based NGO, focusing on girls' education and women's economic empowerment in rural Tanzania. The founder of Lyra, Maria Spink, spotted Ukumbi in the aftermath of our exhibition at the Venice Architecture Biennale in 2016. Ukumbi and Lyra quickly found common ground and agreed to work together on Lyra's next hostel project.

Supporting girls' education is widely known to be one of the most effective ways of fighting poverty and building a stronger basis for communities.<sup>35</sup> The Tanzanian government is making efforts to facilitate the education of the younger generation, in spite of the prevailing lack of resources. Committed communities support the building of hostels for girls especially, to help them concentrate on their education instead of doing extensive housework and walking long distances, and to prevent unwanted pregnancies that automatically stop the girls' schooling.

Nyang'oro Secondary School is located in a rural area about 50 km east of Iringa town. The catchment area covers six surrounding villages, and the furthest distance students walk to school may reach 20 km. The families prefer the girls to live close to the school and the new hostel building is designed to accommodate at least 80 girls. The number is likely to be higher, due to the Tanzanian way of living densely.

The Nyang'oro Secondary School Girls' Hostel in Iringa, Tanzania.  
PHOTO SAIJA HOLLMÉN/HRS



<sup>35</sup> European commission, 2020:9. See also <https://www.worldbank.org/en/topic/girlseducation> and <https://www.unicef.org/education/girls-education>

The hostel was designed with the safety of the girls as a priority. After discussions with Lyra and the community, we ended up designing a simple atrium house that has free-flowing natural ventilation, and yet is safely closed and secured at night. We also wanted to avoid deforestation by using interlocking stabilised soil bricks (ISSB) instead of burned bricks. Burned bricks are commonly used although their local production uses high quantities of firewood. We wanted to offer an alternative and also thereby educate local builders in the production and use of the ISSB. To do this, we consulted and collaborated with the National Housing and Building Research Agency (NHBRA) of Tanzania.

The chosen contractor was based in Dar es Salaam, which was a problem. Furthermore, the quality of the construction work was poor and the roof structure did not follow the design, which meant that the idea of the ventilation was partly destroyed. However, the main architectural concept was strong enough to convince the local authorities and communities. The government offered augmented support for Lyra to build more similar hostels; our low-cost and simple design, using the very basic alphabets of architecture, had made an impact.

The Nyang'oro Secondary School Hostel for girls was opened in October 2018. The next and improved iteration of the same design will be built in Ilambilole village, also located in rural Iringa. The Ukumbi hostel design is likely to be developed into a model, as requested by the Ministry of Education, to be repeated in several secondary schools in Tanzania.



The Nyang'oro Secondary School Girls' Hostel in Iringa, Tanzania.  
PHOTO SAIJA HOLLMÉN/HRS

### **Lyra Strategy Note<sup>36</sup>**

Since 2011, Lyra's mission has been to promote girls' education and women's economic empowerment. These are smart development investments, long proven to have exceptional returns for women's income, health, agency, and the health and education of their children.

Lyra's programme builds on the massive investment made by Tanzanian communities to expand secondary education in the past decade. Rural communities are resource-poor, but are passionately committed to their children's education. Families contribute a significant portion of household income to fund their children's schooling, despite the lack of basic needs and food shortages at home. Communities have constructed secondary schools with their own local resources, the government has provided teachers, and Lyra has provided much-needed accommodation for girls to enable them to attend school safely, as each school serves a wide catchment area (up to 30km).

Lyra has established a strong reputation in Tanzania for delivery of quality hostel accommodation for girls, and a savings and loans programme for community members. To date, Lyra has constructed and furnished 10 hostels accommodating around 1000 girls annually, and improved school infrastructure with solar lighting in classrooms and hostels, water gutters and tanks. Lyra has also provided bursaries for around 200 girls annually to meet the costs of staying in the hostels to ensure that girls from the poorest families can benefit from secondary education.

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<sup>36</sup> Spink, 2016



## Summary

In this Section 1.4.1 *Cases from Hollmén Reuter Sandman Architects*, I have outlined an overview of the architectural development projects that I have chosen for analysis in this thesis. These African projects contribute to the first of the three background knowledge entities leading to this research. Closely connected to these projects and the work of Hollmén Reuter Sandman Architects is Ukumbi NGO, which was established to provide a legal entity and a framework for our projects. In the next section 1.4.2, I will briefly recount what Ukumbi NGO is and how it connects to the projects that were presented in this section.



The Women's Centre  
in Rufisque, Senegal.  
PHOTO JUHA ILONEN

### 1.4.2 Ukumbi NGO<sup>37</sup>

Ukumbi NGO stems from the work of Hollmén Reuter Sandman Architects and intertwines as an element to the first of my research background entities. It is a non-governmental organisation we established to help profile our work within the context of national and international development cooperation.

Soon after our first project, the Senegalese Women's Centre in Rufisque, we started receiving many requests and project proposals alike, but the funding always posed a challenge. The Finnish context of development work made it difficult to raise funding for non-for-profit projects unless they were structured around a registered organisation. This led us to establish Ukumbi, a non-governmental organisation through which we could raise funding and carry out other non-profit projects, and to become an independent player in the field of development cooperation. Ukumbi NGO was established in 2007 by myself, Jenni Reuter and Helena Sandman to provide architectural services for communities in need.

Ukumbi's architectural projects are always designed by a group of member architects, each being responsible of the project's funding, management and monitoring. Since its inauguration, Ukumbi has grown to an organisation of about 200 members, although only a few of them are active. In 2009, Ukumbi was awarded with the Finnish State Award for Art, for promoting culturally sensitive and ecologically sustainable architecture in low-resource communities.

Ukumbi NGO connects to a long tradition of Finnish development collaboration, especially with African nations, since the early 1960s. Architecture, as one of the leading fields of Finnish expertise, was also seen as part of that tradition. However, by the end of the 1990s, the Finnish Ministry for Foreign Affairs had retreated from supporting building as a form of development collaboration, the reason being that the investments had not reached the desired impact.

Ukumbi was established to introduce the idea of meaningful architectural design as a relevant practice in development cooperation, poverty mitigation and community empowerment. It also presented a counterargument to the Ministry's policy, and a statement to the profession to engage in social challenges and areas formerly unexposed to architecture. The tools and principles introduced by Ukumbi reflect the tested ideas of participatory planning and cultural integration in architectural design.

The specific topics addressed by Ukumbi are a) Construction as an instrument of development cooperation b) Participatory planning processes c) Culturally specific planning d) Ecology and the environment e) Management of the construction process and local skills f) Women's position and equality and g) Architecture as a basic human necessity. A more thorough articulation of these topics is presented in Appendix 3: *Architecture and Development Cooperation*. Ukumbi NGO, and in particular the project cases by HRS described in



<sup>37</sup> [www.ukumbi.org](http://www.ukumbi.org)

the earlier Sections of 1.4.1, constitute the core entity of practice-based knowledge informing this research. This body of knowledge is the first of the three background entities of the thesis. The next two are connected to academia and will be described in the following sections 1.4.3 and 1.4.4.

### 1.4.3 Educational Context: ARTS+ENG Collaboration at Aalto University

The second background entity that led to the formation of this research was a study project of collaborations between architecture and engineering and their possible future connections, requested by the Aalto University's President, Tuula Teeri. The study, titled ARTS + ENG, was connected to the formation of the School of Arts, Design and Architecture (ARTS) at Aalto University.

Aalto University was created in 2010 by merging three established universities: Helsinki University of Technology (HUT, established 1849), Helsinki School of Economics (HSE, established 1904), and the University of Art and Design Helsinki (UIAH, established 1871).<sup>38</sup>

When Aalto University School of Arts, Design and Architecture was created in 2012, it combined the former departments of UIAH and the Department of Architecture, thus separating the Department of Architecture from the Faculty of Engineering.

In the former Helsinki University of Technology, difficulties had already been encountered in organising collaboration and bridging the two disciplines of architecture and engineering. One of the prerequisites for the founding of Aalto ARTS was to further develop and deepen the cooperation between architecture and engineering.<sup>39</sup>

The process was launched with a vast enquiry in which at least a hundred faculty members, all of whom were experienced university teachers and/or researchers, took part. The mapping of the phenomena took one year, during which the tacit knowledge of the faculty was collected – experiences and attempts at collaboration from the past and the present – in order to demonstrate the difficulties, challenges and successes of bridging disciplines. The preliminary study was conducted during the academic year 2011-12.<sup>40</sup>

Successful examples of research and education crossing disciplines were identified, especially between architecture and land use planning and urban studies, as well as in the Wood Program<sup>41</sup>, which is a research and design platform for exploring the properties of wood.<sup>42</sup> Most difficulties were found in combining the teaching of both structural and mechanical engineering with architecture – despite the fact that by default these disciplines work closely together in all construction projects. Students entering the construction

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38 "History of Aalto University", accessed December 19, 2019.

39 Hollmén and Rose, 2013.

40 Hollmén and Paavola, 2012.

41 <https://www.aalto.fi/en/wood-program>

42 Hollmén and Paavola, 2012.



business after finishing their diplomas will automatically be put to work in teams with members from these disciplines, yet academia had failed to educate them in teamwork and commonly created innovations.

The greatest challenges were found in curricula design, teamwork coordination and persistent sequenced design processes. Time for common courses was difficult to find, and when collaboration was attempted, the teamwork was problematic as the course assignment was organised in a sequenced manner, implying that one discipline would wait until the other had produced material for the others to work on.<sup>43</sup>

To move forward from mere observations, a year-long process of coordination was initiated. During the academic year 2012-13, Chris Rose<sup>44</sup> from Rhode Island School of Design and myself studied possibilities to create a new intellectual and pedagogical framework for collaboration between Aalto Schools of Arts, Design and Architecture (ARTS) and Engineering (ENG). As part of the study, visits were made to a number of centres in the UK and the USA, which have either newly emerging or established collaborative learning models and practices in relevant fields.

The project involved creating an extended learning platform and cooperation network, working with what presently existed and with what was already planned. Beginning with architecture and engineering, the project anticipated connections between other disciplines represented within Aalto ENG and Aalto ARTS, and suggested a practical approach to offering alternatives to extend the cooperation. The work was closely related to the curriculum renewals taking place within the various degree programmes.<sup>45</sup>

Bridging various disciplines effectively poses a significant pedagogical challenge, which is addressed later in this research. In Chapter 5 *Interdisciplinary Pedagogies in Higher Education*, I will further illuminate these issues from a theoretical point of view, to scaffold and frame them in order to gain a deeper understanding of the challenges.

Studying and formulating interdisciplinary collaborations between the Aalto University School of Engineering and the School of Arts, Design and Architecture is the second of the background entities of this thesis. The knowledge entity concerning interdisciplinary pedagogies which started to take shape during the process described in this Section 1.4.3, is strongly informing and present in PART II of this thesis.

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43 Ibid..

44 Chris Rose is a specialist in arts/science connections based at Rhode Island School of Design, and formerly at the University of Brighton Faculty of Arts and Architecture, UK. He has also visited the former UIAH on academic exchange programmes.

45 Hollmén and Rose, 2013.

#### 1.4.4 World in Transition (WiTLAB)

The third entity that contributes to this research is the Aalto World in Transition Research Lab (WiTLAB), which was established in 2014 to connect academic research and education on global development issues related to the built environment. While the ARTS+ENG project was exploring interdisciplinary pedagogies and approaches in higher education on a more generic level, WiTLAB was established with the idea of implementing interdisciplinary pedagogy in the framework of global sustainability and humanitarian challenges.

The background of WiTLAB is in the *Interplay of Cultures* studio programme, established at Helsinki University of Technology (HUT) in 1993. As an interdisciplinary academic entity, WiTLAB functions in the interface of architecture and engineering, thus being part of the realm of ARTS+ENG collaborations yet originating specifically from the thematic area of global sustainability and humanitarian challenges.

##### 1.4.4.1 Education on Global Development at HUT

The Department of Architecture at Aalto University (formerly at Helsinki University of Technology) has offered courses on issues related to global sustainability and humanitarian challenges since 1993. The course, originally called *Interplay of Cultures*, was initiated by the architects Hennu Kjisik and Veikko Vasko.<sup>46</sup>

With theoretical background studies as prerequisites, the courses have taken architecture students to different cultural contexts to work with low-resource communities in the global south. The locations of the field trips have changed over the years. In 1993, the course took students to Senegal to provide an introduction to the general development problems faced by the majority of the world's people and communities. In year 2000, the course moved to Benin, focusing on urbanisation and uncontrolled growth of cities. Between 2008-2012 the course operated in Cambodia, and in 2013 – 2014 in Dar es Salaam, Tanzania. From 2015 until 2017, the course studied urban conditions on the island of Bohol in the Philippines. Since 2018, the course has collaborated with the Department of Urban and Rural Planning on Zanzibar, Tanzania.

Finland's strong architectural tradition has also manifested itself in the bilateral relationships and development collaboration with the newly independent nations in post-colonial Africa. In terms of education, the Finnish Foreign Ministry included support for the training of architects, town planners and building engineers in the Finnish development cooperation programmes. A long lasting programme with Ethiopia was established as early as 1970, which included contributions in teaching staff, provision of books and other teaching materials.<sup>47</sup> In the 1980s, the Faculty of Architecture at the Helsinki University of Technology (HUT) offered a Master's Programme in Architecture

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<sup>46</sup> See section 1.4.1. University Fieldwork.

<sup>47</sup> Silfverberg, 2006.

and Urban Design, funded by the (formerly) Finnish International Development Agency, FINNIDA. Architect graduates from Ethiopia, Kenya, Sri Lanka, Tanzania, Uganda and Zambia took part in the two-year programme,<sup>48</sup> most returning to their home countries after finishing their degrees.

In a way, the above-mentioned programmes paved the way for *Interplay of Cultures*. Juhani Pallasmaa, an Associate Professor at the Haile Selassie I University in 1972-74, wrote in 2006: “Cross-cultural interaction has to be approached with respect for the uniqueness and autonomy of the cultures in question.”<sup>49</sup> His vision played a crucial role in initiating the *Interplay of Cultures* course at HUT in 1993 to offer architectural students a wider perspective of the cultural varieties in our world. Never has this approach been more topical than now.

This trend of education deals with the reality of architecture, building design and urban planning outside Europe, with cultural understanding as the starting point. The historical, socio-economic and cultural conditions of developing nations being the guiding principles, the main objective is in mutual learning, as well as in understanding the realities of life and conditions of professional work in the world majority context outside Europe.

The emphasis of the *Interplay of Cultures* course is on community engagement and collaboration with local stakeholders, including local authorities, NGOs and universities, which allows for communication and knowledge exchange between all parties. The course seeks to create possibilities for mutual learning and appreciation for both scholars and local communities. Since its inception, the course has operated under different names, professors and teachers at Aalto University’s Department of Architecture. In 2017, the course moved under the newly developed Aalto World in Transition Research LAB (WiTLAB)<sup>50</sup>, and the name returned to its original form *Interplay of Cultures*. The focus has moved from strictly architectural towards more interdisciplinary approaches, embracing disciplines from other Schools of Aalto University.

In addition to academic discourse, a field trip and community engagement are vital elements of the course. The field trip is usually a two/three-week period in January-February each year. Prior to the field trip, the Aalto students are offered prerequisite courses that prepare them to understand issues of globalisation and development in general, and the culture of the partnering country specifically. The projects developed during the field trip are based on local needs and generated in collaboration with local authorities and other possible stakeholders that engage with low-resource communities. The role of NGOs may also be important in facilitating the communication and community involvement with students from both Aalto and the partnering university. Emphasis is placed on communication, so that false expectations are not raised and local communities not exploited.



48 Ibid..

49 Pallasmaa, 2006.

50 “WiTLAB”, accessed June 5, 2018.

Most of the students' projects have been theoretical design & research exercises, but some of them have led to realisation, such as the *Women's Centre* in Rufisque, Senegal<sup>51</sup> (by Saija Hollmén, Jenni Reuter and Helena Sandman), and the *Kouk Khleang Youth Center* in Phnom Penh, Cambodia<sup>52</sup> (by Komitu Architects), with great benefit for those communities. Other notable examples of students' work include the *Kigali Master Class*<sup>53</sup> and *Informal Settlement Studies in Tagbilaran*, the Philippines<sup>54</sup> (by Hannele Cederström and Kiira Piironen).

#### 1.4.4.2 Sustainable Global Technologies

The *Interplay of Cultures* Studio has been an influential entity,<sup>55</sup> encouraging international architecture students to come to Finland to do their exchange studies at Helsinki University of Technology (later HUT), later at Aalto University. As a pedagogical approach focusing on global challenges, it has also contributed to other programmes that stem from the same principles, such as the *Sustainable Global Technologies* (later SGT), hosted by the Aalto School of Engineering, Department of Built Environment. From the beginning, the focus of SGT was to broaden the scope of disciplines in order to develop and implement pedagogies that allow for interdisciplinary collaboration.

Muhonen<sup>56</sup> recounts how the SGT programme was initiated in 2003, as a group of engineering students at HUT brought up the idea of establishing courses that would focus on sustainable technologies in developing countries. A group of stakeholders at HUT – including the Department of Architecture and the *Interplay of Cultures* course – Ministries and UN organisations discussed ways of formulating and structuring an entity of courses that would best meet the targets set in the UN agenda, nowadays known as *Sustainable Development Goals*. In 2006, the SGT Programme was established at the Department of Civil and Environmental Engineering, hosted by Professor Olli Varis. Since its inauguration, it has offered opportunities for interdisciplinary collaboration between students and varied stakeholders in communities of developing and transitional countries. Muhonen writes: “The aim was to provide university level teaching that seeks to give holistic view to the state of the world and development, emphasising the role of sustainability and technology in development, and provide practical experiences from international projects.”<sup>57</sup>

As a pedagogue, landscape architect and alumna of the *Interplay of Cultures* Benin studio, Matleena Muhonen started coordinating the *Sustainable Global Technologies* course content in 2007. Her experience with international

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51 The project had been described in the Section 1.4.1.1.

52 KOMITU. “Kouk Khleang Youth Center”, accessed Jan 3, 2020.

53 Pääkkönen, 2014.

54 Niskanen, Nieto-Linares, Nylund and Nyholm, 2016.

55 See Section 6.1.1.

56 Muhonen, 2018:69.

57 Ibid..

organisations and university pedagogies were an asset as the programme grew into an interdisciplinary ensemble, inviting master's and doctoral students from all disciplines to work together on serious global challenges. Muhonen describes it:

SGT focuses on sustainable technologies, urbanisation, development, environmental, cultural and societal impacts in developing and transition countries, mostly with communities in social exclusion or in humanitarian crisis. Lecturers, teachers, facilitators and project partners come from different Aalto departments, other academic institutions and governmental and civil society organisations. Great emphasis is put on teaching methods and pedagogical approaches at each SGT course to enhance communication and interaction between the student, lecturers and project partners. The SGT Programme collaborates closely with the *Interplay of Cultures* course in teaching and pedagogical development, providing background for any student travelling afield.<sup>58</sup>

A field trip has become an essential component of the SGT Programme from 2011 on, when the first one was organised in Taipei, mentored by the architect Marco Casagrande. The methods of working resemble those of practical consultancy, rather than traditional research, thus making the programme an excellent platform for tangible problem-based-learning experiences. One example of such is the *Aalto LAB Mexico* (ALM) project initiated by Dr. Claudia Garduño, which has also served as a case study for SGT students from 2015 on. In her dissertation *Design as Freedom*,<sup>59</sup> Garduño discusses design and the role of designers as enablers, who help to co-create opportunities for community empowerment. The ALM takes place in a remote and marginalised Mexican village called *El 20* that has hosted Aalto students as well as students from Mexican universities. The focus of ALM is in co-design with community members, aiming at ownership and improvements defined by the community itself.

In all SGT cases, as in *Interplay of Cultures*, the field trip is always preceded by a period of research and sensibilisation. A lot of emphasis is put on the preparation of the field work: No one is sent to the field empty-handed. The role of the mentors is to be the facilitators of the interdisciplinary collaboration, and a 'safety net' on the students' journey towards becoming independent agents amidst unprecedented situations.

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<sup>58</sup> Ibid.:68.

<sup>59</sup> Garduño, 2017.

#### 1.4.4.3 Un-Habitat Partnership

In 2005, HUT signed a Letter of Exchange to become a partner university with the *United Nations Human Settlements Programme*, known as UN-HABITAT<sup>60</sup>, along with other Nordic universities such as Chalmers University of Technology in Sweden and the Norwegian University of Science and Technology. The partnership was meant to promote universities in becoming closer partners of cities, actively engaged in problem solving, thus closing the gap between academia and practice and encouraging collaborative learning.<sup>61</sup> The internal challenge at HUT was that the University lacked a unit that would take responsibility for the exchange and programme requirements.

For this purpose, Matleena Muhonen, Pamela Arslan and I suggested the establishment of a UN-HABITAT Institute within HUT that would commit to conducting education and research, student mobility and cultural diversity focusing on sustainable built environment, human habitat, infrastructure and architecture in developing countries with other partnering universities. We approached the then rector of HUT, Matti Pursula, who initially supported the SGT Programme and continued to provide special programme funding. We had agreed on an appointment, with the agenda to suggest an institute within HUT that would collect the scattered initiatives on global development and combine them under a common umbrella.

Our proposal for the UN-HABITAT Institute in HUT was drafted in 2009, just before the formation of Aalto University in 2010. Until then, the Department of Architecture had been an independent unit at HUT, directly responsible to the rector. In preparation for Aalto University, the newly established faculty structure had placed the Department of Architecture under the Faculty of Engineering. The Dean of the Faculty, announcing that this sort of initiatives should proceed following protocol, cancelled our meeting with Rector Matti Pursula, effectively terminating our initiative.

#### 1.4.4.4 WiTLAB – Aalto World in Transition Research Laboratory

Matleena Muhonen and myself have worked together since 2008, first at HUT, then at Aalto University, and have sensed the need for a consistent academic structure within the university in order to profile and systematically develop the educational contents focusing on global challenges. The above-mentioned UN-HABITAT Institute was turned down, but another step towards such an entity was taken in 2014 when we initiated the *Aalto World in Transition Research Laboratory*, known as WiTLAB and is described as follows:<sup>62</sup>

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60 "UN-Habitat", accessed June 20, 2018.

61 Ibid..

62 "WiTLAB", accessed June 5, 2018.

Aalto WiT (World in Transition) LAB is a network of researchers and projects focusing on resilient communities, human settlements, humanitarian architecture, environmental awareness, pre-disaster planning, reconstruction, sustainable technologies, community engagement and grass roots action. WiT LAB furthers the Aalto University's strategy on sustainability, interdisciplinary collaboration and creating lifelong living environments.

Aalto WiT LAB coordinates and carries out basic and applied research, publication of topical literature and expert assignments on the above-mentioned themes. It also supports master's level and continuing education courses.

Aalto WiT LAB collaborates with the following units of Aalto University: Aalto Global Impact, Creative Sustainability Master's Programme, Aalto ARTS (Dept. of Architecture), Aalto ENG (Dept. of Civil Engineering, Dept. of Built Environment, Dept. of Energy Technology), New Global Research Group and Aalto BIZ.

Aalto WiT LAB is a flexible, horizontal network of units and individuals within Aalto University, with a variety of interests and professional experience on related topics. The international experience of the members creates a vast global network of experts, institutes, programs and universities. It is a forum of discussion and action for people within the academia, who are passionate to change the world for the better.<sup>63</sup>

On a practical level, WiTLAB hosts the *Interplay of Cultures* and *Sustainable Global Technologies* course entities, and arranges visiting lectures and research seminars. It is based at the Department of Architecture, but the fundamental cause of WiTLAB is to promote interdisciplinary collaboration and bridge action and discussion that crosses disciplinary boundaries.

### *Summary*

The academic developments described in this Section 1.4.4 *World in Transition (WiTLAB)* compose the third knowledge entity informing this thesis. As noted, in the formation of WiTLAB we already formulated a basis for an academic endeavour to combine a framework of interdisciplinary pedagogy with challenges of global sustainability. The knowledge stemming from this entity is discussed further in PART II, Chapter 6.

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<sup>63</sup> Ibid..



## 1.5 CONCLUDING REMARKS

In Chapter 1, *Introduction*, I have outlined the three main entities that constitute the background information and bodies of knowledge informing this thesis. These entities – or dimensions – are setting the framework against which I will reflect the main research question of my thesis: *What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?*

The first dimension stems from the work of Hollmén Reuter Sandman Architects and Ukumbi NGO. The set of five selected architectural projects provide an array of practical experiences emerging from participatory development cooperation projects in Africa. Through the analysis of these projects, I will reflect on the *'role of architecture and architects in the context of global humanitarian challenges'*, and *'the cultural features one needs to acknowledge when working in a cultural context other than one's own'*.

The second knowledge entity emerges from the study of collaborations between architecture and engineering and their possible future connections at Aalto University. The ARTS+ENG project studied and formulated interdisciplinary collaborations by imagining ways of bridging disciplines in a university context. This framework is set against the question of *'what kind of pedagogical frameworks are applicable for interdisciplinary architectural education'*.

The third entity informing this research is the Aalto *World in Transition Research Lab* (WiTLAB), which aims at deepening knowledge and understanding of cultural locality and global humanitarian challenges through interdisciplinary university pedagogies.

This ensemble of directions is the epistemological scaffold for my thesis and the reflection on the concluding question of *'how cross-cultural design practices are informing the curriculum design of an interdisciplinary architectural programme aimed at addressing global humanitarian challenges'*.

In Chapter 2, *Architecture in the Age of Globalisation*, I will outline a general overview of the phenomena of architectural modernism, of critical regionalism and their local and diversifying interpretations as a theoretical framework for this thesis. I will reflect on the terminologies of humanitarian architecture, the role of architecture and architects in the humanitarian field, and issues of cross-cultural communication and practices in the context of global humanitarian challenges.

Next pages:  
Tingatinga paintings from Tanzania.  
PHOTOS ANNE KINNUNEN









## Chapter 2

# ARCHITECTURE IN THE AGE OF GLOBALISATION<sup>64</sup>

## 2.1 INTRODUCTION

The process of globalisation has brought with it an almost incomprehensible speed of communication and information transfer.<sup>65</sup> On the one hand, it serves to connect people across the globe, whereas, on the other, the feeling of connectedness is deceptive. Regardless of the ubiquitous flow of worldwide information, we as physical and psychological beings have remained the same; despite its huge pace, technological advancement has yet to overcome our physical and mental evolution. We still have basic needs as physical creatures and rootedness in a place is still a valid issue for most of us. Cultural transformations are slow; thus, the variety of cultural differences remain.

In cities and metropolises with a high level of international presence, the architecture of global modernism, uniformity and loss of cultural identity may seem predominant. However, one might argue that the underlying cultural characteristics, unique to every cultural context, remain largely intact. Rapoport asserts: “Since culture is variable, designed environments respond to variable definitions of needs and priorities as expressed in varying schemata: environments are culture specific.”<sup>66</sup>

The way people inhabit and occupy spaces, how their inherent culture shapes the way they see and perceive the world, is a fundamental human attribute. Architecture is a projection, or a built image of these cultural features. “Cultures are unique and inseparably rooted in their historical, geographical and economic realities and, consequently, cultural forms cannot be exported or imported”.<sup>67</sup> The fact that these qualities are largely hidden in an international city does not mean they disappear as projections of cultural identity. Although they become less evident under the pressure of global industry and exchange, the fundamentals of a culture are deeply rooted.

Architecture is both universal and local. Fundamentally, architecture reveals how people experience their world; it tells us of the development of spatial requirements and uses from one generation to another. It defines the very existence of the human race and helps us in establishing who and where we are. As Pallasmaa writes: “Architecture for us is also a means of attempting to understand and symbolise the world, and an attempt to achieve immortality.”<sup>68</sup> Architecture both creates and limits possibilities and determines the framework within which social encounters may or may not occur. The unwrit-

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64 Chapter 2 contains quotations from an article published in the Exhibition Catalogue “Interplay of Cultures: 25 years of education in global sustainability and humanitarian development at Aalto University” by Hollmén, 2018.

65 Ito and Howe, 2016.

66 Rapoport, 1980:7.

67 Pallasmaa, 2006:2.

68 Pallasmaa, 1995:87.



ten rules of architectural design are defined by local customs; architecture that aims to create an improved environment for everyone is necessarily based on understanding local conditions.<sup>69</sup>

Even in our era of globalisation, it still makes sense to explore the variables and cultural differences that shape us as individuals, as communities and nations, and to see how these variables are projected in material form. If we look deeper into the vernacular traditions and their urban modifications, we can identify features in the built environment that communicate the intellectual and spiritual values of a community.<sup>70</sup> Architecture keeps bringing us back to who we are and how we manifest our presence in the world. Every culture projects itself in a different manner, which highlights the importance of analysis and understanding of context in the architectural design when the geographical limits of the profession are expanding or vanishing. For architects, this is a constant challenge and a reminder of the responsibility that comes with the profession: interpreting the values and aspirations of a culture while remaining aware of the threat of cultural impoverishment amidst global influences.

In Chapter 2, I discuss the conditions of modernity and critical regionalism as a theoretical framework of this thesis, against which is later positioned my reflection on cultural locality in architectural practice with low-resource communities. I also debate the contested concept of ‘humanitarian architecture’ and its definitions, while critically examining the role of architects and architecture in humanitarian crises.

## 2.2 THE MODERN MOVEMENT AND CRITICAL REGIONALISM IN ARCHITECTURE

The notion of the architect as an interpreter of the values and aspirations of local culture is not new. According to Tzonis, “The awareness of a regional architecture as an idiom having a distinct identity and being associated with an identifiable group, and having this association used for further manipulating the group’s identity, goes as far back as ancient Greece”.<sup>71</sup> Cultural identities are equally manifested and communicated in built form; the manmade environment is strongly influenced by cultural interpretations. As Pallasmaa reminds us: “The unselfconscious building traditions of indigenous societies gave rise to the delightful diversity of architectural culture around the world.”<sup>72</sup>

Hays describes “culture as the cause and content of built form” and as “a functional support for human institutions and as a reification of a collective volition”. In this way, he adds that “architecture ennobles the culture that produces it; architecture reconfirms the hegemony of culture and helps to assure

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69 Ozolins, 2015:15; Hollmén, 2010.

70 Oliver, 2006:5; Hollmén, 2010.

71 Tzonis, 2003:11.

72 Pallasmaa, 2006.

its continuity”.<sup>73</sup> Bill Hillier and Julienne Hanson assert:

“Spatial order is one of the most striking means by which we recognise the existence of the cultural differences between one social formation and another, that is, differences in the ways in which members of those societies live out and reproduce their social existence.”<sup>74</sup>

In Africa too, vernacular and traditional architecture is deeply rooted in nature and environment.<sup>75</sup> Although indigenous environments are disappearing, “enough remains, however, that bears witness to the enormous variety of environmentally and climatically appropriate construction techniques and styles that constituted the African built environment when all ethnic groups expressed their own cultural beliefs and aspirations through their buildings”.<sup>76</sup>

Climatic conditions and available materials dictate much of the form-giving in indigenous architecture. According to Branch and Fitch, “The primitive architect works in an economy of scarcity – his resources in materials and energy are severely restricted. Yet he has little margin for error in coping with natural forces: gravity, heat, cold, wind, snow, rain and flood. Both his theory and his practice are strictly determined by these conditions.”<sup>77</sup>

Considering regional features in the placing and composing of cities and buildings<sup>78</sup> was nonetheless rejected by the modern movement of the 20<sup>th</sup> century – and the *International Style* in particular – which emphasised the ideal of the individual *architect-creator*, and even requested novel choices, wilfully disregarding local features. It has not been until recently, with critical voices and a variety of movements, that appreciation of the indigenous local cultures has grown deeper, without the redundant connotations of exoticism.

In Section 2.2, I present an overview of the architectural theories that have come to define design thinking related to cultural locality. I briefly discuss critical regionalism as it contributes to the theoretical framing of this thesis, acknowledging that my own conception of the African traditions is by default highly fragmented, not belonging to any continuum or uninterrupted historical perspective. The overview is thus not a comprehensive study but a review of the mainstream trends of thinking that largely defined the mindset of the era.

### 2.2.1 The Modern Project and the *International Style*

The concept of *modern*, used already as early as in the 16<sup>th</sup> century, is characterised by the idea of distinction from the old, prevailing and reactionary.<sup>79</sup> The word *modern* came to mean “of, or relating to the present or the immediate past; of a period extending from a relevant remote past to the present

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73 Hays, 1984:16.

74 Hillier and Hanson, 1984:27.

75 Kjisik, Vasko and Salo-Lee, 1998:71.

76 Ibid..

77 Branch and Fitch, 1960:134.

78 Suggested already by Vitruvius in his theories dating back to 1st century BC. In Krufft, 1994.

79 Vartola, 2014:49.

time; or involving recent techniques, methods, or ideas”.<sup>80</sup> In the 18<sup>th</sup> and 19<sup>th</sup> centuries, the term was connected to belief in progress and the concept of modern was even more integrally related to science and the questioning of institutions that were seen as stagnant and conservative. According to Habermas,

... the project of modernity formulated in the 18<sup>th</sup> century by the philosophers of the Enlightenment consisted in their efforts to develop objective science, universal morality and law, and autonomous art according to their inner logic... Enlightenment thinkers... still had the extravagant expectation that the arts and sciences would promote not only the control of natural forces but also understanding of the world and of the self, moral progress, the justice of institutions and even the happiness of human beings.<sup>81</sup>

His criticism is unequivocal: “the 20<sup>th</sup> century has shattered this optimism”.<sup>82</sup>

Modernism can be understood as art responding to the experience of modernity: of time as a process of constant change and progress.<sup>83</sup> In architecture, the emergence of the idea of the *architect-creator* was maybe best expressed in the formation of Bauhaus, and in its idea of all arts becoming as one in architecture. The manifestations of Bruno Taut and Walter Gropius saw this as a cathedral of a new society based on socialism.<sup>84</sup> They underlined the role of the brave individual *artist-architect* as the protagonists of modern construction and lifestyle: one world, one architecture.<sup>85</sup>

One of the most notable manifestations of modern architecture was the *International Style*, developed in the 1920s and 30s, which

... implied a universality of approach which generally favoured lightweight technique, synthetic modern materials and standard modular parts so as to facilitate fabrication and erection. It tended as a general rule towards hypothetical flexibility of the free plan, and to this end it preferred skeleton frame construction to masonry. This predisposition became formalistic where specified conditions, be they climatic, cultural or economic, could not support the application of advanced light-weight technology.<sup>86</sup>

The *International Style* stressed the architect-led ideal architecture, alienated from local features, and a uniformity in industrially produced buildings.<sup>87</sup> In the *International Style* culminated the idea of the brave individualistic protagonists of modernism, and the belief in architecture as a product of the modern technology and a genius-minded architect-artist. It had the idealistic and am-

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80 “Modern.” <https://www.merriam-webster.com/dictionary/modern.>, accessed December 26, 2019.

81 Habermas, 1983:9.

82 Ibid..

83 Vartola, 2014:50.

84 Frampton, 1992: 123-129.

85 Ibid.:117-118.

86 Frampton, 1992:248.

87 Vartola, 2014:56.



bitious goal of spreading the universal ideas of good life and modern way of living to all humans, culminating in excessive and disproportionate plans like Le Corbusier's 'social condenser' *Unité d'Habitation*: a total integration of social services but isolated from its immediate environment.<sup>88</sup>

### 2.2.2 Regionalism in Architecture

One of the first to question this universality of the architecture of the 20<sup>th</sup> century was Lewis Mumford. In his nominal column 'Sky Line' in *The New Yorker* (Oct 1947), he defended regionalism, and presented it as a 'from the ground up' alternative to the elitist, artificially imposed *International Style*.<sup>89</sup> Mumford's article fuelled a vivid discussion at MoMA, where the *International Style* had been ostentatiously presented.<sup>90</sup> In a public round table that followed Mumford's column, strong counterclaims were made, even suggesting Nazi *Heimat* sympathy to Mumford's position.<sup>91</sup>

The concept of Regionalism bears connotations to power and governance through its etymology. At its extreme, it implies nationalistic, national romantic and rationalistic aspirations used for political purposes, and is premised on how minority populations are treated.<sup>92</sup> Romantic regionalism was indeed used to emphasise unity of a nation, based on ethnicity, and ethnic-territorial disputes. In Germany, during the 1930s political and economic crisis, it was known as *völkische* or *Heimatarchitektur*. However, similar trends emerged at the same time in large parts of the world where totalitarian regimes had taken over.<sup>93</sup>

In his later writings, Mumford developed his definition on regionalism. He emphasised that it is not in conflict with the universal and argued that regionalist architecture has to overcome the "deep unbridgeable gulf between the peoples of the earth", which *Heimatarchitektur* is in fact deepening.<sup>94</sup>

Regionalism as an architectural concept means that the primary motives of architectural choices are the local conditions of the site and local culture.<sup>95</sup> Mumford's regionalism, however, can be said to be *critical*, since it opposes the century's old tendency to see regionalism as absolutely and categorically opposed to the universal. Lefaivre writes: "Mumford's regionalism infused itself with a notion of relativity. Regionalism is seen as an engagement with the global, universalising world rather than by an attitude of resistance... Regionalism becomes a constant process of negotiation between the local and the global."<sup>96</sup> Instead of resisting, Mumford's regionalism engages; it

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88 Frampton, 1992:227.

89 Lefaivre, 2003:25.

90 The International Style exhibition at the Museum of Modern Art, New York, 1932.

91 Lefaivre, 2003:26. "What is happening to Modern Architecture?" MoMA public round table on Feb11, 1948.

92 Vartola, 2014:118.

93 Tzonis, 2003:19.

94 Tzonis, 2003:20.

95 Vartola, 2014:118.

96 Lefaivre, 2003:34.

integrates, rather than segregates.<sup>97</sup>

Mumford's writings on regionalism did not form a consistent theory or manifestation. His ideas were inherently novel, and they have to be hand-picked from his vast output. One notable aspect, in addition to relativity between global and local, is his definition of community, which he understood as multicultural, not tied to nationalistic or tribal aspirations. In relation to architecture, he would emphasise sensitivity to a local, yet multicultural community.<sup>98</sup> His critical view of regionalism was "involving identity, sustainability, memory, community in a globalising, post-colonial and fragmented world".<sup>99</sup>

### 2.2.3 Critical Regionalism

Lefaivre and Tzonis later coined the term Critical Regionalism in 1981, although Kenneth Frampton's formulation of it is best known. In his many iterations of the theory, Frampton defines it as a marginal practice, which is critical to modernisation, while refusing to abandon the emancipatory aspects of modern architectural legacy.<sup>100</sup> It is also architecture consciously bound to site, sensitive to site-specific factors such as topography, light and climatic conditions, emphasising the tactile as much as the visual, and one of opposing the over-sentimentalising of the vernacular.<sup>101</sup>

Canizaro claims that regionalism is connected to disciplines like cultural studies, cultural criticism, sociology, anthropology and philosophy.<sup>102</sup> A relevant addition to the listing of disciplines would be cross-cultural psychology, due to its inherent relation to all of the above. Canizaro also raises the meaning of practice, arguing that

... architectural regionalism differs from these other disciplines in its relation to practice... Regionalism may borrow the critique established in critical theory, but it does so from the perspective of practice, that is, with the aim of applying critical analysis to a situation to focus what needs to be done. As such, regionalism... can be thought of, in part, as the practical application of the social sciences – a sort of rough synthesis of allied disciplines.<sup>103</sup>

Frampton's critical regionalism, as stated by Canizaro, is "defined by a culture's unique identity, manner of place-making, architectonic strategies, qualities of the environment in dialogue with local means for coping with that environment, and possible tactile experiences that may enrich one's being there".<sup>104</sup> Carloni describes the strength of provincial culture as something that "resides

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97 Ibid..

98 Lefaivre, 2003:38.

99 Lefaivre, 2003:39.

100 Frampton, 2007:327.

101 Ibid..

102 Canizaro, 2007:18.

103 Canizaro, 2007:18.

104 Canizaro, 2007:19.

in its capacity to condense the artistic and critical potential of the region while assimilating and reinterpreting outside influences”.<sup>105</sup>

Tzonis writes about the relation of particular to universal, stating that “what we call the critical regionalist approach to design and the architecture of identity, recognised the value of the singular, circumscribes projects within the physical, social, and cultural constraints of the particular, aiming at sustaining diversity while benefiting from universality”.<sup>106</sup>

#### 2.2.4 Local and Diversifying Interpretations

The 20<sup>th</sup> century can be characterised as an era of flourishing and seemingly triumphant modernism and its offspring the *International Style*, which celebrated the victory of the modern man, democratic and one-solution-fits-all thinking. As said, however, there were always notable counteracting voices, asserting that there is more to human culture than the modernistic movement can possibly reach. Those voices suggested that connecting to particular has meanings beyond universal interpretations. Critics like Lewis Mumford, whose regionalist ideas were first strongly rejected by the society at the CIAM and MoMA, became one of the most influential writers. Eventually the progress of the modern movement turned into appreciation of local values and sensitivity to the particular, instead of rigidly universal. Regionalist architects like Alvar Aalto, Frank Lloyd Wright, Louis Barragan were the oft-mentioned names when the failures of the *International Style* were criticised.

In Finnish architecture, for example, the *International Style* resonated on many levels: Alvar Aalto won the competition for his Paimio Sanatorium, Erik Bryggman won the Vierumäki Sports Park competition, and Aalto's Print House in Turku was featured in the MoMA exhibition in 1932. The architectural vocabulary of these projects followed the principles of the *International Style*, but, more often than not, there was an underlying tone of local interpretation in the Finnish architecture, namely in their sensitivity to the landscape and consideration of climatic features.

In many of his projects, Alvar Aalto showed how the relation to the topography of the site and climatic considerations can bring about a powerful rootedness of the building to local conditions. The international audience paid maybe less attention to the equally sensitive works of his fellow citizens Erik Bryggman<sup>107</sup> and later Reima Pietilä, whose architecture was modernistic, yet exploring undefined territories with a certain anarchistic attitude.

Finnish architecture, as well it might be, was not an exception. It is obvious that syntheses of the previous kind also emerged in other ‘peripheral’ regions of the world, where the features of modern architecture were merging with local characteristics. Today, as we face new challenges in the process of globalisation, such ‘universal’ attributes of architecture are becoming increas-

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105 Carloni, in Frampton, 2007:323.

106 Tzonis, 2003:10.

107 Bryggman's Resurrection Chapel in Turku and Villa Nuuttila in Kuusisto are examples of his exquisite, yet down-to earth and welcoming architecture.

ingly purposeless and otiose. This is particularly significant in the context of underprivileged and vulnerable low-resource communities where the purpose of the built environment is primarily to provide shelter and protection. Ideally, it would fulfil the needs of the community and help to maintain or rebuild a sense of belonging. In severe and harsh conditions, architectural theories have no meaning: all that matters is the capacity to respond to the existing needs with dignity and respect. As Hassan Fathy beautifully stated, appreciation of the local creates pride among the people in what is indigenously their own:

An architect is in a unique position to revive the peasant's faith in his own culture. If, as an authoritarian critic, he shows what is admirable in local forms, and even goes so far as to use them himself, then the peasants at once begin to look on their own products with pride. What was formerly ignored or even despised becomes suddenly something to boast about, and moreover, something that the villager can boast about knowingly.<sup>108</sup>

### Summary

Section 2.2 provided an overview of the theoretical architectural discourse of the Western world, regarding modernism and the *International Style* in particular. It also contemplated Critical Regionalism, which developed as a counterargument to the International Style, calling for a more site-sensitive and locally adapted, yet globally connected architectural interpretations. The next section will discuss issues of humanitarian architecture, which is notably site specific, and requires deep understanding of regional cultural conditions. I will discuss its possible definitions and practical implications, as well as cross-cultural communication and practices.



<sup>108</sup> Fathy, 1973.

## 2.3 HUMANITARIAN ARCHITECTURE – WHAT IT MEANS AND WHY IT MATTERS

As the global flow of information is losing physical constraints, the more we have become aware of global poverty, forced migration and natural cataclysms. According to the UN Refugee Agency (UNHCR), “by the end of 2017, 68.5 million individuals were forcibly displaced worldwide as a result of persecution, conflict, violence or human rights violations... 1 in every 110 people globally is either an asylum-seeker, internally displaced or a refugee”.<sup>109</sup> The conflicts and violence are often consequences of climate change, of droughts, or other extreme weather conditions that force people to leave their places of origin and migrate to already overcrowded areas. In 2015, the Norwegian Refugee Council (NRC) reported that “every second, one person is displaced by disaster”.<sup>110</sup> It is estimated that by 2050, the number of climate migrants might reach one billion people.<sup>111</sup> Due to natural cataclysms, conflicts result, and more migration occurs. The UN Environment Programme reports: “Since the beginning of this century, the world has witnessed more than 2,500 disasters and 40 major conflicts”.<sup>112</sup>

Humanitarian crises call for action, and architecture is a crucial component in the process of helping the people in need. However, can we then claim that there exists a phenomenon specifically called *humanitarian architecture*? As Michael Sorkin argues, “What architecture, after all, isn’t humanitarian, engaged with that most primal activity: the provision of shelter?”<sup>113</sup> Would it be more accurate to talk about architecture designed for humanitarian needs, rather than ‘humanitarian architecture’ *per se* - and in parallel, to talk about the work of architects working in the humanitarian sector, rather than humanitarian architects?<sup>114</sup>

In this section I will analyse the much debated and controversial phenomenon of ‘humanitarian architecture’. There is an ongoing discourse on the definitions and justification of the expression, as well as its appropriate uses and affiliations in terms of situations, temporal dimensions, clientele, and political and structural conditions. I will discuss the ‘gift’ dimension of humanitarian endeavours, different temporal modes of humanitarian construction, participatory practices and the role of architects and other built environment professionals in the humanitarian field.

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109 UNHCR Statistics Team, Scott, Patrick and FICSS. “Are Refugee Numbers the Highest Ever?”, accessed Jun 7, 2019.

110 Kamal, B. “Climate Victims – Every Second, One Person is Displaced by Disaster”, accessed July 12, 2018.

111 Kamal, B. “Climate Migrants Might Reach One Billion by 2050,” accessed July 12, 2018.

112 UN Environment Programme UNEP. “About Disasters and Conflicts”, accessed July 20, 2018.

113 Sorkin, 2014:ix.

114 A comment by Michael Moore in Charlesworth, 2014:4.

### 2.3.1 The Evolving Role of the Architect

Before the Enlightenment and the rise of the artist-creator, being an architect was a highly practical profession. Etymologically, the word *architect* derives from the Latin *architectus*, which again derives from the Greek (*arkhi-*, chief + *tekton*, builder), in other words, chief builder<sup>115</sup>. The design aspect was included in the building process, but more often the completed building complex carried the name of the commissioner (e.g., the king or ruler), rather than the architect who built or designed it. Architect as a modern profession is – to a fair extent – the result of the western movement of modernism that came to underline authorship as a result of the invention or work of an individual artist or designer. In indigenous communities, however, authorship is not regarded as a value connected to design. In a context where architecture – or the built environment as an image of the way of life of the community – is traditionally something that ‘grows from the ground’, the modern role of an architect needs to be explicitly articulated.

It is inevitable that the current state of the world has implications on how we should think of the profession of architects. Andres Lepik questions the role of the architect in the 21<sup>st</sup> century: “Is it simply enough to be a service provider who works solely to fulfil commissions for clients who can afford such services?”<sup>116</sup> There is an abundance of people living in inadequate conditions, left without either safety or sanitation in built environments and with little or no resources for improvement. As a consequence, a growing number of architects have taken up social challenges - in many places, different tempos and in various ways. Working with communities that are not in the position to speak for themselves, many architects are now exploring ways of new spatial and social activism. For many, aesthetics is no longer enough as a primary motivation for architecture, and they rather consider the meaningfulness of the practice.

As Michael Sorkin points out, “it is also crucial that ‘humanitarian’ practice not be so uniformly associated with conditions of emergency”.<sup>117</sup> In the case of development projects where urgency does not define the design choices (or lack thereof), there is more time to make a proper analysis of the conditions and local culture, engage communities and search for locally sustainable building techniques and materials. In terms of design, the role of the architect then becomes closer to the customary, but in terms of clientele it often remains undefined. However, architects have the potential to become key players in initiating and implementing sustainable development projects with underprivileged low-resource communities. In doing so, they also need to consider the nature of the cultural particularities of the place and community they have chosen to engage with. Hence, the need to critically evaluate regional and cultural features.

Aquilino has pointed out three of the many ways architectural know-how can be critical in post-crisis situations.<sup>118</sup> The first of these is *capacity*: well-trained

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115 Online Etymology Dictionary. “Architect (N.)”, accessed May 14, 2019.

116 Lepik, 2010:12.

117 Sorkin, 2014:ix.

118 Aquilino, 2011:8-9.

architects have the ability to erect secure and durable structures, and in addition to serve as capable construction and contract managers. Handling needs, resource and budgets throughout a project saves resources from other actions in humanitarian work.

The second area is *representation*: working with communities can help them act on their own behalf in areas that the community normally finds out of their reach, such as land tenure, access to water, sanitation, public space and improved ecology.

The third function is *vision*: imagining a better future despite the surrounding devastation. For desperate individuals it may be impossible to look ahead and see beyond destruction. Aquilino reminds us: “Architectural expertise can promote public health, encourage investing in new skills and environmental awareness, and advocate for mitigating risk, which together help ensure a sustainable and safe way of life” that is rooted in local priorities.<sup>119</sup>

There is a substantial number of professional fields responding to growing humanitarian demands, but a remarkable absence of professionals capable of strategic spatial problem solving and design-led solutions for longer-term recovery.<sup>120</sup> On average, architects contribute to only three per cent of the world’s built environment.<sup>121</sup> This means that, in general, architecture is not considered a valid profession worth relying on when planning spatial arrangements. In some sense, we architects can blame ourselves: the long-lasting tradition of architects considering themselves as self-satisfied *artists-creators*, rather than useful professionals with capacities to enable communities, has alienated us from a vast number of other disciplines and agents. Yet, this is where architects could be of real use, offering a widespread capacity to process management in recovery and development. Sanderson argues:

As I was told by a professor when studying some 20 years ago, the role of architects in these circumstances is “marginal at best”. In fact, most architects are taught almost the exact opposite of what is needed. Architects are taught to focus on the product (a building), whereas humanitarian practitioners major on the process (involving people). For architects, ownership of the design rests with them and fellow professionals; for the aid world, engaging beneficiaries through sharing decisions is paramount.<sup>122</sup>

According to Brett Moore<sup>123</sup> of UNHCR, the UN Refugee Agency prefers to recruit other professionals rather than architects, due to their general lack of teamwork skills. Moore’s assertion, and clearly his personal experience, was that the usual client-commission based *modus operandi* of the architectural practice is useless in disaster management and development work. Indeed, the ability to work in multi-disciplinary teams is crucial in situations where there

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119 Ibid.:9

120 Charlesworth, 2014:2.

121 Aquilino, 2011:8.

122 Sanderson, 2010.

123 Presentation in the Design, Disaster and Development Research Forum held in Barcelona in July 2018.



are no clearly defined clients and the role of the architect is not a lead position, but a coordinating and collaborative one.

Consequently, there is a striking lack of employment opportunities for young architects who wish to work in humanitarian and development fields, in any of its time scales or temporal modes. As Aquilino states: “There is still no career path that prepares students to work as urgentistes – design professionals who intervene at a crucial moment in the recovery process to produce enduring solutions.”<sup>124</sup> There is a number of architectural programmes tackling humanitarian and societal challenges,<sup>125</sup> but so far the field is considered ‘emerging’, still lacking the volume to educate an adequate number of architects to work in the humanitarian field.

This also brings up the question of the profession of architecture as a livelihood. Pro-bono and socially-related humanitarian projects are rarely a sustainable source of income for an individual architect. Unless the work takes place within a larger organisation capable of providing architectural services, the income-generating model of the humanitarian architect requires creative arrangements. For some, the model means combining commercial and pro-bono activities, while some enter academia for teaching and research.<sup>126</sup> As of yet, we are lacking sustainable models of income for those architects who would prefer to build a career in the humanitarian sector.

However, although largely absent in the vast operations of disaster recovery, a growing number of architects has chosen to work pro bono, or funded by small donations, on humanitarian projects. Their interventions are small on the global scale, but they provide inspiration, insights and examples to many. Furthermore, we can safely say that at least a discourse has begun with the international community of professional agencies on what the crucial skills needed for such circumstances are and where architecture puts itself primarily in the use of others, in an active, adaptive and collaborative way. The relevance of this discussion is highlighted by this quote from Jan Egeland<sup>127</sup>:

Because if you're not a professional in this game, you have no right to descend on someone in their moment of crisis and do on-the-job training. Saving human lives is no place for amateurs. Why is that? Because the poor, dispossessed and disaster-prone should have at least one basic right left to them: to be protected from incompetence.<sup>128</sup>

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124 Aquilino, 2011:7.

125 Programmes such as BaseHabitat at the University of Art and Design Linz and The Master of Disaster, Design and Development (MoDDD) in RMIT, Melbourne, are paving the way for others in the field.

126 Rahul Mehrotra and Diébédo Francis Kéré are a couple of examples of architects who have set up foundations in conjunction with their commercial offices to support humanitarian projects – although both are equally pursuing careers in education as well. See: <http://rmaarchitects.com/category/architecture-foundation/> ; <http://kere-foundation.com/en/>

127 Egeland served as the UN Under-Secretary for Humanitarian Affairs (Head of the United Nations Office for the Coordination of Humanitarian Affairs OCHA) during the Earthquake and Tsunami in South Asia in December 2004.

128 Egeland, 2009. <https://reliefweb.int/report/indonesia/jan-egeland-saving-human-lives-no-place-amateurs>. Accessed Oct 3, 2020.

### 2.3.2 The Unreciprocated Gift

The term ‘humanitarian architecture’ has emerged in the architectural discourse in recent decades to the extent that we can hardly avoid it in the international architectural media. The term itself is contested. According to Yvonne Riggie, “Humanitarian architecture is architecture that seeks to improve a humanitarian issue – disaster relief, poverty, conflict, disease, etc.”<sup>129</sup>

Charlesworth argues that “the word ‘humanitarian’ implies having a concern for, and wanting to help improve the welfare of, people in need.”<sup>130</sup> On the other hand, as Hans Skotte has claimed: “the term alludes to philanthropy or charity, all terms that entail an asymmetrical relationship between provider and recipient”,<sup>131</sup> the latter “reducing architecture to its utilitarian (and gift) dimension only.”<sup>132</sup> It is a timely discussion and a relevant discourse for the profession as we face the rapidly changing environmental and societal conditions.

In his influential book, *The Gift*, Marcel Mauss shows that “people, objects and social relations form a whole, already a rather significant accomplishment that is still not widely digested; and this system is created and recreated in different ways when people transact with each other in gift and commodity relations.”<sup>133</sup> Mauss claims that cycles of obligatory returns of gifts constitute a significant parameter in organising human social life and relations. Although Mauss’s ethnographic work was mainly conducted within societies without centralised authority among the Northwest Coast Native Americans, and in Malesia and Polynesia, but he also studied Western politics and economies in the early 20<sup>th</sup> century.

Mauss’s theorising of the circulation of gifts gives the three components equal importance: ‘giving’, ‘receiving’ and ‘reciprocating’ are foundational to relationships.<sup>134</sup> In a simple act of ‘giving’, “the recipient puts himself in a position of dependence *vis-à-vis* the donor.”<sup>135</sup> If a community and its participant are prevented from reciprocating, it represents “an act of symbolic violence that disempowers the recipient.”<sup>136</sup> It creates feelings of inferiority and jeopardises reputation.<sup>137</sup> Consequently, the society’s development is disturbed.

These psychological conditions of social relations can be shaken or destroyed by natural cataclysms or forced migration. In sudden emergencies, when the social construction of a community is abruptly affected by a humanitarian crisis, the ‘gift dimension’ rarely becomes an issue: the first to come to the rescue are usually international humanitarian organisations, which do

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129 YR Architecture Design. “3 Characteristics of Successful Humanitarian Architecture.” <http://www.yr-architecture.com/characteristics-of-successful-humanitarian-architecture/>, accessed Aug 1, 2020.

130 Charlesworth, 2014:6.

131 Conversation with Hans Skotte, April 20, 2020.

132 Ibid..

133 In Arnould, 2018:44.

134 Ibid.:45.

135 Mauss, 1990 (original 1954):76.

136 Arnould, 2018:45.

137 Ibid..

not belong to the local social sphere, thus remain beyond reciprocal social relations. However, the ‘gift dimension’ becomes a valid consideration in projects that aim at long-term development and poverty reduction when there is more time and possibilities for social interaction with local communities.

### 2.3.3 Temporal Modes of Humanitarian Work

In case of a natural cataclysm, or a disaster when seen from the human perspective, local capacity suddenly collapses, and the need for humanitarian assistance is high. Over time, as the local capacity starts to increase, the need for humanitarian aid consequently diminishes. The desired condition and direction is societal development, in which the local community becomes independent and external aid is no longer needed.

In post-disaster situations we can identify roughly three temporal modes that distinguish themselves in urgency yet overlap in crucial ways. The immediate response to life-threatening conditions requires urgent actions. In terms of the built environment, the first thing to establish is the *emergency shelter*, which is usually a tent or room in a grouped accommodation centre.<sup>138</sup> It ensures protection from weather, prevents further deaths and secures the survival of the victims. As soon as possible these are replaced by *transitional shelters* or structures that provide the basis for later, more permanent homes. As Corsellis and Vitale describe it, transitional shelter “provides a habitable covered living space and a secure, healthy living environment, with privacy and dignity, to those within it, during the period between a conflict or natural disaster and the achievement of a durable shelter solution.”<sup>139</sup>

Transitional shelters may be individual shelter buildings, a room with a host family or grouped accommodation in existing buildings.<sup>140</sup> Generally, however, they offer standard solutions to housing needs, with the IKEA Foundation’s flat-pack ‘Better Shelter’ as a recent example.<sup>141</sup> The *reconstruction phase* is, according to Matti Kuittinen, “the design, production and construction of permanent buildings and infrastructure after natural or man-made disasters”.<sup>142</sup>

A transitional shelter is often the standard solution to housing needs. However, it is not always an ideal solution.<sup>143</sup> Too often the transitional becomes permanent, and what was built without planning or design, remains in use even for decades. Charlesworth recounts:

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138 Kuittinen, 2016:8.

139 Corsellis and Vitale, 2005:11.

140 Kuittinen, 2016:8.

141 See <https://bettershelter.org>

142 Kuittinen, 2016:8.

143 Kuittinen, 2016:15.

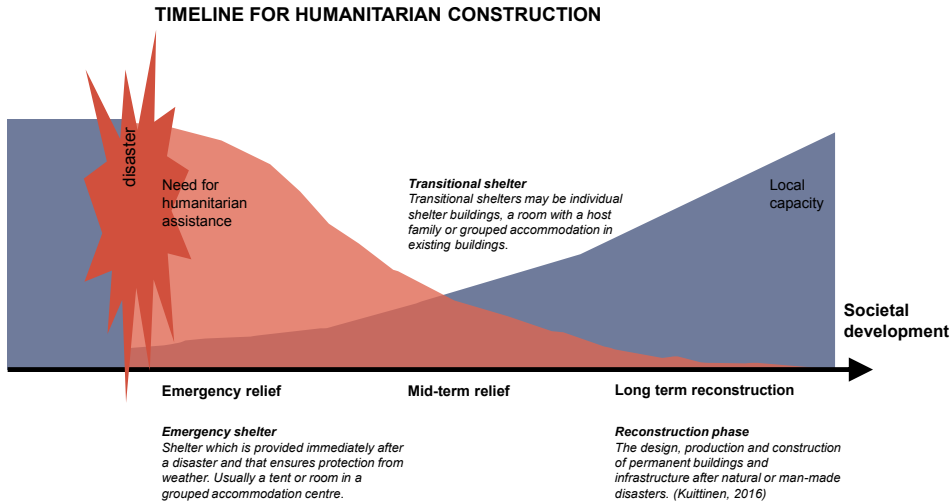


Figure 2: Timeline for Humanitarian Construction.

There are too many badly designed, poorly built and wrongly sited examples of prefabricated design experiments in the post-disaster field. I, too, have witnessed the folly of many experimental shelter solutions, intended as ‘universal’ design products – from inflatable octagonal tents and polyurethane igloos in Port-au-Prince to ill-conceived shipping container houses in southern Sri Lanka and New Orleans. These were inappropriate design solutions because such shelter ‘experiments’ suited neither the climate, culture, community nor economy of the city or region being rebuilt despite receiving much acclaim in the international design media.<sup>144</sup>

Humanitarian crises are extreme situations, when the security, livelihoods, dignity and autonomy of the people involved are severely endangered. Such conditions call for an equally serious attitude from those who come to their rescue. Luckily, there are plenty of organisations doing responsible and well-organised, timely and direly-needed humanitarian work – but as much as there are responsible actors, there are also ‘venturer-designers’ with good intentions, but with less holistic know-how of such conditions. Most often these endeavours stem from honest enthusiasm to help and to be of use – but result in exhibiting ‘experimental design prototypes’. At their worst, they end up wasting resources and causing more harm than good.

Furthermore, disasters happen all around the world, in all cultural contexts. Even in emergencies, cultural features still play a crucial role in how people respond to crises, how the temporal shelters can best be organised, and how people ‘use’ and occupy the spaces built for their rescue.

<sup>144</sup> Charlesworth, 2014b:269.

### 2.3.4 Institutionalisation of the Field

The term ‘humanitarian architecture’ is most often used in conjunction with emergency-related humanitarian activities, in exigencies and short-term post-disaster situations, when architects and planners engage in the design and implementation of emergency and transitional shelters with other humanitarian actors. In her article *Architecture Culture, Humanitarian Expertise*,<sup>145</sup> Anooradha Iyer Siddiqi “distinguishes a path by which architects and planners began to engage the professional field of international humanitarian action”,<sup>146</sup> aiming to “build a historiography for a little-studied field by focusing on the institutionalisation of architectural expertise on humanitarian relief, in no small part through the establishment of a professional culture.”<sup>147</sup>

Siddiqi recounts how architects and planners from practice and academia became connected with the humanitarian field through the UN agencies, namely UNHCR and UNDRO.<sup>148</sup> She points out a few decisive workshops and seminars as watershed moments which laid the grounds and framework for design professions to enter the field. This included not only architects, but also urban and regional planners and engineers, whose primary expertise is embedded in the designing and organising of the built environment.

In 1993, the *First International Workshop on Improved Shelter Response and Environment for Refugees* was organised by the Office of the United Nations High Commissioner for Refugees (UNHCR) in the Château de Penthes in Geneva, to study the problem of shelter and settlements in refugee contexts. The Workshop *Resolution* states:

The need for appropriate and cost efficient shelter for refugees and displaced persons has grown considerably in importance in the last decade. The magnitude and complexity of conflicts has placed humanitarian organizations into an exhaustive race in time and circumstance. This sequence of refugee events has so far prevented an in-depth analysis of appropriate responses.<sup>149</sup>

For these reasons, with the Programme and Technical Support Section of the UNHCR taking the initiative, “a comprehensive shelter strategy with appropriately developed standards, supply methods, specifications and production capabilities related to local needs and circumstances” was sought for. The workshop objectives were to develop a UNHCR shelter concept “to deal with both emergency and long term shelter needs”, and develop policies and strategies of its implementation.<sup>150</sup>

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145 Siddiqi, 2017.

146 Ibid.:367.

147 Ibid.:369.

148 The United Nations Disaster Relief Office (UNDRO) was the predecessor of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA).

149 Resolution in UNHCR, 1993:5.

150 Ibid..

In the post-colonial period during the Cold War, there were a few notable examples of individual architects and humanitarian practitioners who worked on emergency contexts, such as Otto Königsberger, Ian Davis, and Frederick Cuny<sup>151</sup>, from 1953 to 1978.<sup>152</sup> Their work was ground-breaking both in practice and academia, engaging through training and education, and influential in their far-reaching pedagogical impact. Some of the academic programmes they initiated are still operational today.<sup>153</sup> However, as Siddiqi describes: “Several of the oral histories I collected as part of this research confirmed that no comprehensive knowledge base on architecture and planning in emergencies had been developed or codified by 1993.”<sup>154</sup> The same is noted by Zetter: “Indeed one has to search as far back as 1987 (Hardin; UNHCR/DMC) to find any (though unpublished) appraisal of the issues and a decade before that for an overview paper (Cuny 1977).”<sup>155</sup>

Nevertheless, the need had been recognised:

But if physical planners would be integrated earlier in the first phases of emergencies the cost of their proposals would be more bareable [sic] than when already big budgets have been spent on poor or no expertise at all... the engineers, architects & planners have to use their imagination and develop new ideas on how to tackle the shelter problematic. Re-cycling, re-useability [sic], expandability, flexibility, economic solutions have to be researched. To obtain success the circle of specialists involved needs to be expanded.<sup>156</sup>

The *Summary of Proceedings* from the 1993 workshop presented a variety of issues, as identified in the Working Groups Topic Areas, concerned with 1) Response procedures and administration, 2) Specifications and standards, 3) Agencies, NGO's, consultants, 4) Shelter and environment, 5) Emergency shelter and longer term development and 6) Environmental considerations.<sup>157</sup> The workshop set an institutional framework of the connections between humanitarian workers and planning professionals, with attendees from international organisations, academia and the UNHCR alike. The intention was also to map existing resources and think of ways forward while developing best practices.

The *Summary of Proceedings* also presents the *Shelter Bibliography Resources* form, distributed to participants, in which they could list resources

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151 Fred Cuny was an influential “engineer, a doer and a practitioner”. Conversation with Hans Skotte, September 21, 2020.

152 Siddiqi, 2017:368.

153 The Development Planning Unit at UCL was established in 1971 by Königsberger and others, tracing its roots back to 1953. <https://www.ucl.ac.uk/bartlett/development/about-us/history>; The Centre for Development and Environmental Planning (aka CENDEP), was founded by Davis and others at Oxford Polytechnic in 1985. <https://www.brookes.ac.uk/architecture/research/cendep/>

154 Siddiqi, 2017:384.

155 Zetter, 1993:1. Embedded references: HARDIN DK (1987) ‘Physical Planning’, Unpublished paper presented at the INHCR/DMC Emergency Managers Workshop; CUNY F (1977) ‘Refugee Camps and Camp Planning: the State of the Art’, Disasters, 1:2, pp 125-143.

156 Buchwald, 1993:11.

157 UNHCR, 1993:7.

“that would be of use to others”, including “field reports, evaluations, feasibility studies, back-to-office reports, etc.”<sup>158</sup> The UNHCR was aiming at systemised knowledge gathering, related to camp / settlement, regional fit, and national policy concerns. Both technologies as well as processes of shelter were sought: “This information will assist in the development of a shelter data-bank.”<sup>159</sup>

As resources, one participant listed “own experience in implementing buildings in Ethiopia”,<sup>160</sup> others included university programmes, reports, and networks of professionals. The workshop methods demonstrate a genuine interest in mapping the available resources and professional capacity, with the aim of creating systematised processes for shelter provision.

In his *Overview of Shelter Provision and Settlement Policy*, published in conjunction with the Workshop *Summary of Proceedings*, Roger Zetter writes about the importance of policies:

Because of the scale and speed of refugee movements and the presumed temporary status of refugees, set against the relatively costly requirements of durable shelter, host governments and the humanitarian assistance agencies have usually adopted short term, pragmatic responses. Often, however, these options prove to be at the expense of the inevitable longer term policies beyond the emergency and care and maintenance phases. This contradiction between the physical permanency of housing and the presumed temporariness of refugees, penetrates to the heart of the dilemma of refugee policy making and assistance - permanent residents or temporary migrants? Shelter and settlement policies are thus a powerful indicator of the humanitarian will of the international community to address the basic rights of refugees - their status in a host country.<sup>161</sup>

By opposing the issues of ‘permanent residency’ and ‘temporary migration’, Zetter underscores the inconsistencies and contradictions in the policies related to forced migration, criticising the international community for highlighting only the short-term emergency responses. He calls for strategies addressing long-term impact and development. His paper addresses refugee crises, but, in this context, he also emphasises that “the relief and development models are complementary,”<sup>162</sup> underpinning local considerations, capacity building and a wide range of development project experience. Short-term shelter provision and long-term settlement development of different scales are parallel and supplementary activities, both dependent on policies and local conditions. “Ad hoc responses should be replaced by a more systematic evaluation of needs and supplies for both short and longer term requirements.”<sup>163</sup>

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158 UNHCR, 1993:19-36.

159 Ibid..

160 UNHCR, 1993:31.

161 Zetter, 1993:1.

162 Ibid:2.

163 Ibid:6.



Ulrike von Buchwald, in her statement entitled *DIGNITY*, puts forward a critical consideration:

Physical Planners for refugees and displaced people are able to contribute much more to assist in creating the conditions of dignity which all human beings have the right to receive, in whatever circumstances... shelter and environment should be recognised - as are protection, food and health care - as a fundamental right of physical and dignified survival.<sup>164</sup>

The outcomes and reflections stemming from the 1993 *First International Workshop* emphasised the complexity of the issues and the need for multi- and interdisciplinary collaboration of different professionals in the humanitarian field. Long-term development and capacity building were highlighted in conjunction with emergency response, which again emphasised the importance of the design professions; of adequate, appropriate, dignified, site specific and locally adapted design, as well as engaging processes of implementation. As Zetter points out: “Preparedness is the key.”<sup>165</sup> Preparedness and relief are parallel and complementary approaches, different in their temporal modalities, but concurrent in the conceptualisation of humanitarian architecture.

Siddiqi’s recount reveals that there is a “yet-unresolved tension between development and humanitarian relief, which, in architectural terms, has pitted ‘dwelling’ against ‘shelter.’ Each raises the stakes for expertise differently: the former by ennobling the shared mission of architecture and humanitarianism, and the latter by reducing it to functionalist, instrumentalised science.”<sup>166</sup> Finally, an irreconcilable, fundamental visual problem remains: “The more sophisticated the shelter response, the more resistance many host countries would mount, out of concern that humanitarian solutions should not encourage permanent settlement.”<sup>167</sup>

### 2.3.5 Engagement and Participation

A common denominator for all sustainable projects in the humanitarian sector is the engagement of communities in the design process and implementation. They involve a socio-political perspective, where reconstruction or development is considered to go beyond the physical, including the social and economic aspects of a community. These projects require careful analysis and personal involvement, interaction and interdisciplinary collaboration: they are situated, bound to their locations and the people in question. It is difficult to imagine they could be designed off-site.

The architect is a team player and serves the whole community in finding solutions that best empower the end users – the ‘owners’ of the project. Most often, people themselves are the best experts of their own lives and conditions.

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<sup>164</sup> Buchwald, 1993:2.

<sup>165</sup> Zetter, 1993:5.

<sup>166</sup> Siddiqi, 2017:369.

<sup>167</sup> Siddiqi, 2017:381.

Nabeel Hamdi recounts an example from a housing upgrading project in Sri Lanka, in which assigned ‘professional’ and ‘resident participation’ groups made their respective suggestions of the improvements required. It turned out that the residents had requested far less expensive infrastructural renewals than the ‘professionals’, concentrating mostly on issues aiming at improving the day-to-day quality of life and social life. Bringing the issues close to the people themselves, allowing participation and enabling them to become the owners of their own development, can thus have a significant effect in cost and productivity: this includes tolerance of less rigorous methods, improvisation and variation in implementation, but can ultimately result in a socially engaging and diverse environment.<sup>168</sup> According to Hamdi: “Participation is fundamental to human development. It is fundamental to expanding people’s freedoms and capabilities to lead lives that they value and to expanding their choice.”<sup>169</sup>

Participatory practice is a good way to mobilise resources, reduce dependency and build resilience, in particular in vulnerable communities. It promotes greater equality, helps in building ownership and the right to live in dignity. It is fundamental for renegotiating power relations, removing discrimination and ensuring that people gain fair access to essential resources (knowledge, materials, land, etc).<sup>170</sup> The methods of participation and practice are not necessarily very ‘academic’ but they represent realistic needs. Hamdi calls for the designer to elicit “*actual* needs by adopting methods which may not be particularly scientific but which are more appropriate to reality.”<sup>171</sup>

Engaging, however, may be challenging in low-resource settlements, because in some societies, according to Sandman, Levänen and Savela, “the inhabitants are not used to and might not even be able to imagine that they could have an influence on the development of their surroundings.”<sup>172</sup> In addition to human aspects (designer’s relationship to the participants), there are also language barriers and other social, cultural and religious aspects that may hinder community participation in low-resource settings.<sup>173</sup> It is a culturally privileged position to imagine that participation in a politically related issue (which environmental design is) would be natural to citizens in all societies.

Definitions of ‘participation’ are many and varied: Saxena suggests it to be “a voluntary process by which people, including the disadvantaged (in income, gender, caste, or education), influence or control the decisions that affect them.”<sup>174</sup> It must be therefore understood as “a process by which the people are able to organise themselves and, through their own organisation, are able to identify their own needs, and share in the design, implementation and evaluation of the participatory action.”<sup>175</sup> Sennett talks about the importance

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168 Hamdi, 1985:43.

169 Hamdi, 2014:57.

170 Ibid.:57-58.

171 Hamdi, 1985:44.

172 Sandman, Levänen and Savela, 2018:3.

173 Hussain, Sanders and Steinert, 2012.

174 Saxena, 1998.

175 Ibid..

of cooperation: “We need to find ways of holding people together who are very different, who don’t understand each other, don’t know each other, and maybe don’t even like each other.”<sup>176</sup>

Nabeel Hamdi has introduced a model of “four integrally related sets of action vital to good development practice”, which he calls ‘PEAS’: *Providing, Enabling, Adapting and Sustaining* and writes: “Together, these define the ideals and activities of responsible practice.”<sup>177</sup>

*Providing* is easy to understand, but less easy to implement. “Providing on its own, we have learnt, in particular when delivered by experts and often ‘outsiders’, is either charity, or reverts to procedures and solutions that become over-standardised in search of averages and lowest common denominator. It includes dependency.”<sup>178</sup>

Hamdi explains *enablement* as “the ability or willingness to provide the means with which to open doors and create opportunities in order to build livelihoods, reduce vulnerability and sustain development”.<sup>179</sup> The focus is on people, and their ability to see themselves and be seen by others as a resource rather than “social and economic liability”.<sup>180</sup>

*Adaptability* deals with the capacity for change and incremental adjustments: “The plan is not some sacred prototype to be tested in its compliance with preordained rules... Rather, the plan, in its structure and arrangement is an expression of shared aspirations and an expression of creative opportunities.”<sup>181</sup>

In Hamdi’s PEAS, *Sustainability* is about being strategic: “Sustainability both derives from these [the above mentioned] themes and is a check on their value over time, widening opportunity and promoting a lasting impact.”<sup>182</sup>

Hamdi’s notion of ‘providing’ including dependency brings us back to the ‘gift’ dimension studied by Marcel Mauss: “The unreciprocated gift still makes the person who has accepted it inferior, particularly when it has been accepted with no thought of returning it.”<sup>183</sup> It is therefore worth considering the multiplicity of dimensions that emerge from these positions: too simplistic and rigid interpretations may indeed result in unsustainable impact.

As well as in long-term development projects, in disaster contexts the sustainability, longevity and impact of humanitarian actions is commensurate with the level of engagement of the people affected. Frederick Cuny was a great advocate of the social and development context of the disaster. In a conference keynote address he claimed: “Too often, housing is examined simply as an artefact—a design or a structure—rather than as an end-product of a very

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176 Sennett, 2012:34.

177 Hamdi, 2010:141; 2014:88.

178 Hamdi, 2014:88-89.

179 Hamdi, 2010:147.

180 Hamdi, 2014:89.

181 Hamdi, 2010:150.

182 Ibid.:152.

183 Mauss, 1990 (original 1954):83. See also 2.3.2.

complicated process.”<sup>184</sup> He later states: “In disaster response, the term victim should be coterminous with participant.”<sup>185</sup>

Charlesworth depicts what she describes as the ‘design parachute’ phenomenon, in which donors and designers ‘drop in’ to execute a quick project with little interest in its long-term effect, local impact, community involvement and resiliency, cultural adaptation or local economy.<sup>186</sup> At their worst, these projects are designed to be photogenic and media-sexy and may add to the negative perception of ‘*starchitects*’ as self-seeking individualists, ignorant of cultural and local conditions, looking for an international boost to their careers. David Sanderson argues:

Too many aid-delivered shelter programmes have lacked genuine participation by affected people, and as a consequence have been poorly designed and wrongly located... Architects need to move beyond their traditional role of designers of buildings in places of relative certainty, to become facilitators of building processes that involve people in places of uncertainty and rapid change. Without this change, architects will remain on the margins of humanitarian response.<sup>187</sup>

### 2.3.6 Humanitarian Practitioners

In a humanitarian crisis, a wide array of practical professional capacity is mobilised. In urgent situations a key requirement for a humanitarian practitioner is the ability to work with multiple stakeholders and communicate with clarity, stepping aside from one’s own disciplinary lingo. Hamdi defines a development practitioner as “someone who can deliver practical solutions now, and sometimes in crisis or otherwise urgent settings, and at the same time makes space for progressive and sustained social economic development over the longer term.”<sup>188</sup> These practitioners may be urban planners, artists, architects, landscape architects, structural, water or sanitation engineers, health workers, social scientist or teachers. They may be politicians, construction managers, environmentalists and community leaders – or others involved in humanitarian work.<sup>189</sup> The professional capacity required in the field includes agility, improvisation, flexibility and resilience. An attentive development worker equipped with critical senses is able to question the conventional, habitual and customary, avoid stagnation and apply adaptable practices according to local needs.

Environmental pollution and man-made ecocides are another form of threat that cause humanitarian crises and severely endanger ecosystems and human populations. Industry related contamination and petrol pollution have

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184 Cuny, 1981:3.

185 Cuny, 1994:7.

186 Charlesworth, 2006.

187 Sanderson, 2010.

188 Hamdi, 2014:7.

189 Ibid.; Charlesworth, 2014b:270.

resulted in degraded land and environment across continents.<sup>190</sup> Here, the role of landscape architects, water engineers and environmentalists becomes of paramount importance. Including land and water design strategies in the long-term development agendas provides rich opportunities to integrate less wasteful models of basic infrastructure, thus creating new public spaces with a social function and purpose.<sup>191</sup> As Chun points out: “Such opportunities enable reciprocity between human wellbeing and a strategy for ecosystem services.”<sup>192</sup>

In brownfield remediation, water management including untreated sewage and open sewer systems of collecting wastewater are common challenges. Rainwater management is rarely incorporated in governmental water policies, which can cause additional administrative dilemmas.<sup>193</sup> Large infrastructure projects are also highly political, involving a great number of governmental agencies on local and national levels. Rigid or unfunctional governance and contradicting political ambitions can sometimes considerably slow down or hinder environmental projects, despite their expected public utility. Governmental agencies thus play a crucial role in enabling the reconstruction of brownfields and underdeveloped urban areas.<sup>194</sup>

Participation is essential in environmentally regenerative projects as well. An extensive study by Gross, van Wijk and Mukherjee shows that also in water supply and sanitation projects a better sustained impact is achieved through engaging locals across genders and wealth levels during planning, implementation and management stages of the project.<sup>195</sup> On the same topic, Elizabeth Parker writes: “At its core, successful water management and remediation is about human relationships.”<sup>196</sup>

Given the unpredictability of future climatic conditions, development practitioners in water and environmental issues are key professionals in developing new models for transforming polluted landscapes into thriving public communal spaces.<sup>197</sup> According to Chun, “design education is in a unique position to create a socially driven, culturally sensitive and ecologically resilient metabolism”.<sup>198</sup>

The role of architects in the aid and development fields, as Charlesworth argues, “has typically been recognised as logistical and technical rather than part of the larger process of design thinking that might contribute to the physical and social reconstruction of devastated communities, cities and landscapes.”<sup>199</sup> Hamdi also asserts:

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190 Chun, 2015:71.

191 Chun, 2015:73.

192 Ibid..

193 Chun, 2015.

194 Conversations with 1) city authorities and 2) international consultants in Zanzibar City, February 2020. Discrepancies between the narratives of the stakeholders indicate political tensions.

195 Gross, van Wijk and Mukherjee, 2001.

196 Parker, 2015:119.

197 Chun, 2015:81.

198 Ibid..

199 Charlesworth, 2014b:269.

I believe that the role of architects is in giving social and political realities physical form; less as finite plans than as physical strategies, with options and trade-offs. And architects must generate principles, theories and methods which can be widely applied.<sup>200</sup>

He launches a challenge to the profession: “Projects whose principles cannot be rapidly expanded in scale, whatever their site-specific merits, are generally a waste of time, effort and money.”<sup>201</sup>

Schneider and Till discuss the notion of agency in relation to the transformative potential of architecture where the lack of a predetermined future is seen as an opportunity and not a threat.<sup>202</sup> The question comes down to the responsibility and power of the architect. In a humanitarian context, the architect can be considered as someone who “actively and knowingly gives up authority... who doesn’t work in the foreground, but takes a step back... who is part of the process, and sometimes but not always the initiator of the project.”<sup>203</sup> In humanitarian projects, architects become responsible for their actions and the feasibility of the design to the end users, rather than donors, which reverses the notion of accountability. In a humanitarian architecture project, the architect seeks to render him/herself unnecessary, if not invisible in the end. It’s a game defined by respect and empathy, not by egos and self-interest.

Architects working in post-disaster and development zones have a unique opportunity to contribute to the proliferating global challenges of urban displacement, systemic urban conflict and the aftermath of natural disasters... While the architect’s main role in the immediate post-disaster scenario might be to work with humanitarian agencies and professionals in providing emergency shelter and infrastructure solutions, they can also provide a broader strategic and a spatial articulation of the reconstruction of devastated cities and landscapes.<sup>204</sup>

### 2.3.7 Drafts for a Definition

Clearly, there is a multitude of descriptions for ‘humanitarian architecture’. The term is elusive and avoids definitions, as we have seen from the diverse interpretations presented in this thesis alone. It includes different temporal modalities, contexts and dimensions. A common denominator, however, of all of the interpretations is that it concerns people who have been confronted with conditions of extremity, be that an emergency, natural cataclysm, or forced migration of poverty.

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200 Hamdi, 1985:42.

201 Ibid..

202 Schneider and Till, 2009.

203 Ibid..

204 Ibid.:271.

A technical term to cover the urgent needs related to the built environment of disaster affected communities would be ‘humanitarian construction’, which Kuittinen defines as: “The design, production and assembly or building of emergency shelters, transitional shelter or reconstruction work, carried out after natural or man-made disasters. Needs for humanitarian construction may occur in developing or developed countries and for any socio-economic group.”<sup>205</sup>

Humanitarian architecture may be defined as an activity that encompasses ‘humanitarian construction’, while emphasising participatory and engaging design methodologies, considering communities with empathy and dignity, and addressing spatial and strategic design issues in multiple scales. It can also be understood as i) long term recovery and poverty alleviation, ii) participatory planning and community engagement in vulnerable communities and iii) culturally appropriate and locally-adapted architectural design solutions in low-resource communities. It considers the societal norms of reciprocating, by engaging the community to become active agents in the process and to take ownership of the project. It can be called ‘architecture based on values we can consider to be *humanitarian*’ – which again offers a myriad of interpretations.

Be it an emergency or long-term development, the activity known as ‘humanitarian architecture’

1. aims at the betterment of the living conditions of vulnerable communities, who, for themselves a) cannot afford to pay for the services of an architect and b) are not in a position to voice their needs in their society
2. is designed in collaboration with those communities, engaging and enabling the members to take ownership of the project
3. uses local resources, materials and manpower, to boost local capacities
4. exploits building techniques that are adapted to local climatic conditions
5. benefits from other disciplines in the design and implementation
6. concentrates on processes rather than products

Humanitarian architecture can take its shape in multiple scales, from mass housing to small-scale building designs. More relevant than the size and scope of the project is the well-being, self-esteem, pride and dignity of the owner-community. A humanitarian architect is someone who is strongly involved in identifying the actual needs and outlining the programme for improvements in the built environment. Humanitarian architecture includes the process of inquiry and analysis of local needs: defining *what* to design – not just *how* to design. It is about rethinking the boundaries of the architectural profession and becoming an ‘architectural anthropologist’, interested in the actual needs and ways of living of the community and people in vulnerable situations.

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205 Kuittinen, 2016:8.



## *Summary*

Section 2.3 included reflections on humanitarian architecture, its terminology and different manifestations. It discussed the many roles of architects and other humanitarian practitioners, the temporal modes of humanitarian work and the relevance of community engagement and participation in humanitarian projects. I also considered the problem of dependency, and the ‘unreciprocated gift’, which can cause feelings of inferiority. Finally, I presented drafts of definitions, to collect the multiple interpretations of humanitarian architecture.

In the next section I will debate issues that relate and stem from architectural projects dealing with low-resource communities and how the architects respond. I will also discuss how cross-cultural situations are shaping architectural practices in humanitarian contexts.

## **2.4 ISSUES IN HUMANITARIAN ARCHITECTURE**

In Section 2.4, I will raise issues that emerge from architectural practices with low-resource communities. Firstly, I discuss the practical implications of the working conditions and situations that occur in cross-cultural humanitarian contexts, such as media exploitation, gender balance and sharing, communicating and learning from failures and misunderstandings. I will also reflect on cultural measures in communication and in cross-cultural practices.

### **2.4.1 Media Exploitation**

In the humanitarian sector, when working with underprivileged and low-resource communities, designers and architects are dealing with people’s lives: real human beings who live in dire conditions. The projects are often designed and executed for free; what remains with the designer is a story to tell. There is an element of extremity in the sometimes undeniably beautiful architectural works that may appear particularly seductive to the media: photogenic exoticism, admiration or even glorification of people’s resourcefulness amidst hardships, heroism over everyday challenges. Dan Hancox writes about “desperation dressed up as architectural invention”,<sup>206</sup> denouncing the stories exploiting low-resource communities as “slum porn”.<sup>207</sup>

The temptation of adding a twist or two to one’s story, a photograph deliberately leaving out the crucial mistake or revealing only the favourable sides of the design, is a deceitful pitfall. Providing a false image of a project easily turns against the good intention. This appeared to be partly the case when the famous Makoko Floating School in Lagos, Nigeria, collapsed in 2016, after a few years of service to the community. Designed by the NLÉ architecture studio, the Makoko Floating School (MFS) had received such intense media attention that the collapse of the structure shook the press.

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206 Hancox, 2014.

207 Ibid..

The collapse of the floating school prototype in Lagos took place on June 8, 2016, while the MFS II, an improved version of the structure was being celebrated at the Venice Architecture Biennale. The prototype itself was built quickly and required constant maintenance.<sup>208</sup> NLÉ had intentionally communicated an image of a functioning project although it was a pilot structure meant to be temporary. It was presented as a continuous success story, which had clearly helped to establish the international reputation of NLÉ. Their initial press release on June 8, 2016, understated the collapse and explained that “the structure had been out of use in anticipation of reconstruction”.<sup>209</sup>

Six months later the studio published a comprehensive report on the case, dated Nov 28, 2016.<sup>210</sup> At that point, however, the report seemed more like a response to repeated inquiries than a self-directed attempt to openly reflect on the causalities of the collapse.

One should not underestimate NLÉ’s contribution in maintaining and repairing the MFS I structure until the ownership and responsibility was transferred to the community. However, if the architect continues to benefit and seek international recognition on the basis of a particular project, part of the responsibility remains: at the very least, it includes honesty and openness towards all parties. Tomà Berlanda wrote shortly after the incident: “The collapse of the structure of the Makoko Floating School faces us with a fundamental question of how to articulate judgement and inform an opinion on the role architecture has”.<sup>211</sup>

The media coverage of the Makoko Floating School had been immense. In fact, it was so powerful that the government reconsidered the relocation of the community, and allowed the floating school to remain despite its previously unknown typology. This is no minor achievement for a piece of architecture. Had the collapse and reasons behind it been more openly and swiftly communicated, the studio could have avoided the adverse publicity caused by their dismissive attitude. Building a career and seeking fame doesn’t blend well with humanitarian work. There are few things more harmful for a community project than the arrogance of the architect.

#### 2.4.2 Sharing the Failures

A very different attitude was communicated by the architect Rahul Mehrotra at the International Union of Architects (UIA) conference in Durban, South Africa, in 2014. In his keynote speech, he spoke about a community toilet project that his studio RMA had designed and built with SPARC (The Society for the Promotion of Area Resource Centers), a Mumbai based NGO<sup>212</sup> – and what went wrong with it. He not only presented the ambitious project itself but also

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208 NLÉ. “Why did Makoko Floating School Collapse and Other FAQs”, accessed July 19, 2018.

209 Ibid.:21.

210 Ibid..

211 Berlanda, 2016.

212 “Community Toilets for SPARC”, last modified Oct 26, accessed December 27, 2019.

openly shared the mistakes and failures that took place during the design and execution of the project. Unlike in the case of the collapsed Makoko Floating School, his public reflection communicated an attitude of responsibility and willingness to learn from failure.

SPARC had been commissioned by the government to build over 300 toilets in the slums of Mumbai. Funded by the World Bank, the requirements included a concrete structure, which encouraged RMA to develop a prototype with a higher structure and to include useful features in the complex: residential accommodation for a caretaker on the upper floor as well as a community space, to serve as a study area for children at night. Solar panels would provide electricity for lighting, for the security of women and children. The facades were to be wrapped with flowers and creepers to allow for a more welcoming atmosphere.

RMA did a lot of research in the areas the toilets were to be built to secure the appropriateness of their design to the local conditions. Nonetheless, every time they reached the plinth level, the government would stop the construction. The government representatives saw the structure as something too iconic and permanent, whereas, in their minds, the slums were only a temporary condition. The carefully-designed aesthetics did not do good either: it only helped to give the toilet an image of a permanent structure, which would allow for the community to get organised and eventually legitimise the entire slum area – something the government was not ready to accept.<sup>213</sup>

One toilet complex, however, was eventually built. This was in a remote area, where the government officials rarely visited. At first, the toilet project was a success: children were using it, the community centre was appreciated and the solar panels kept the spaces active and safe during the night. Six months later, however, the government had installed one of their normal public toilet blocks beside it. The door of the SPARC/RMA toilet complex was locked and the community centre had been occupied by the group of slum residents who were involved in building the toilet.<sup>214</sup>

Mehrotra sees two clear reasons for the repeated failures of their toilet project. One of them was the government's conception of 'temporality' of the informal settlements, and the fact that the prominent and well-designed architecture would serve as a means to legitimise a temporal condition. This was further emphasised by the choice of materials: a solid concrete structure served the same purpose of consolidating the project on the slum ground – all working against the idea of temporality, which the government wanted to preserve.

The second, and from the community perspective even more notable reason for failure, was the lack of ownership. The NGO did not have a solid enough community base on the ground and this paved the way for vested interest.<sup>215</sup>

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213 TOILET section in: Koolhaas, 2014. Email from Mehrotra to the author on June 14, 2018.

214 Ibid..

215 Ibid..

The one toilet that eventually got built was soon taken over by a small group, who unfoundedly claimed ownership of the facility over the rest of the community.

Mehrotra's analysis of the causalities of their failure is precise. It carries wisdom and valuable lessons for all stakeholders who take part in projects aiming at improving the living conditions in informal settlements. Good intentions, even profound research and fine-tuned, dignified design cannot alone assure the sustainability of a project. Bottom-up and top-down approaches are both required. A sense of ownership has to grow from the grassroots for a project to take root in a community and approval from legal authorities has to be acquired for sustained support.

In the same UIA Durban conference, Jennifer van den Bussche, founder and director of the South African NGO, Sticky Situations, talked about the importance of local representation in community projects. Her advice was that if you cannot engage with a community for seven years yourself, work with someone who can. Participation, engagement and commitment are absolute prerequisites for any community project to take root and become sustainable.<sup>216</sup>

We can rarely predict the political and socio-economic changes that take place in the communities we work with. Often these are side effects or consequences of larger political realities, choices and actions, to which the informal settlements or underprivileged communities are most exposed. One example of such is the Sra Pou Vocational School<sup>217</sup> in Cambodia. Designed and built by architects Hilla Rudanko and Anssi Kankkunen<sup>218</sup>, the project was intended for a relocated community evicted from areas that the government wanted to develop. The Vocational School, designed with utmost architectural quality, was executed in collaboration with a small NGO, which eventually did not have the capacity to maintain it, nor sufficient local engagement to keep it active. In a forcibly relocated community, which lacks cohesion and sense of place in the first place, this is unfortunate but not surprising. The current deteriorated state of the school reflects the challenges of relocated communities as they are evicted from their original locations.

Openly discussing the failures, challenges and difficulties we face when working in the humanitarian sector, as well as the value base, roles and responsibilities of our profession in society as a whole, is a fruitful ground for developing architectural practices. The aim of this research is to bring the reader closer to the riches and realities of cultures far and wide as well as to promote reflection on the potential that architecture has in empowering and enabling communities through space-making that is inherent to their indigenous cultures.

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216 Jennifer van den Bussche, Presentation at the UIA Conference in Durban, South-Africa, 2014.

217 <http://ukumbi.org/projects/srapou.html>

218 Hilla Rudanko and Anssi Kankkunen are both Interplay of Cultures alumni.

### 2.4.3 Learning from Misunderstandings

In the late 1990s, as nearly-graduated architects, we (myself, Jenni Reuter and Helena Sandman) were working on the construction of our first building to be erected. It was a community centre for women in Rufisque, Senegal,<sup>219</sup> in a suburban area called *Gouye Aldiana* - meaning the *Paradise of the Baobab*. The design process of the women's centre had been quite participatory: the women were engaged in the project on many occasions and on many levels. Their attitude towards the building had become somewhat affectionate and there was tangible pride in the air as the construction process went on.

Clearly, we encountered many challenges during the construction, as we were trying to manage the complicating puzzle and conflict of too little funding with the best quality we could possibly achieve. One particular issue was the roof structure and how it was realised. We had designed a 'reversed thatch roof', in which a corrugated iron sheet served as protection from rain, and underneath it a traditional, thick straw mat as a ceiling and insulation from heat. The space between was to be ventilated, so that the heat of the sun, increased by the iron sheet, could be naturally removed, without heating the indoor spaces.

We reviewed the drawings of this particular detail several times with our engineers and contractor. We wondered why they kept coming back to it and again we explained how we wanted the structure to be. When we finally saw it built, the crucial ventilation openings were not there, leaving all the heat captured in the structure and the carefully designed insulation would not be enough to cool the indoor space. We had no choice but to increase the height of the whole building by 30 cm to allow the ventilation of the roof to be realised properly.<sup>220</sup>

When asked why they had not told us that this was such an unfamiliar structure that they simply didn't understand it, the response was vague: "We did not want you to feel bad..." Only afterwards, we came to realise the complexities of gender and social relations in the Senegalese society, which ultimately affected our work and position as well – sometimes even with such tragicomic consequences.

### 2.4.4 Unbalanced Gender Equality

In her research on the Senegalese society, Anne Rosenlew, a Finnish sociologist who lived in Senegal for many years, explains that "in contemporary urban Senegalese society gender relations are still solidly anchored in a structure based on hierarchy and inequality and definite boundaries are still drawn between the male and female spheres."<sup>221</sup> The Senegalese society is strictly gender divided and male dominant. The position and authority of man is un-

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<sup>219</sup> See Section 1.4.11.

<sup>220</sup> Hollmén, Reuter and Sandman, 2002.

<sup>221</sup> Rosenlew, 2002:34.

questionable: he has the power and the final word.<sup>222</sup> To maintain his authority, he does not ask for instructions, nor take orders from a woman. In the process of designing and constructing the Women's Centre, these men from a patriarchal Muslim society had undoubtedly previously never worked with white, young female architects. For them, this was disturbing enough, but the underlying reason for such reluctance to admit failed communication were more extensive than we then realised.

In the construction process, we never deliberately sought for authority, rather collaboration. We felt this was in a way accepted, but the cultural attributes of our male partners in collaboration were stronger than their deliberate choice to work with us, causing tensions they apparently found disturbing at times. In the end, however, the construction was successful and well-received and all stakeholders were proud of the final result. For us, the architects, it was a cumulation of lessons learnt.

The roof structure incident described above was one of many occasions when we became aware of how cultural differences affect human interaction – including professional encounters. Our judgement was ethnocentric because it was rooted in our own cultural coding, in how we communicate in professional situations. We would have expected our collaborators to tell us that they did not understand the drawings, but for them, admitting this was culturally impossible. We, on the other hand, did not realise that this was a challenge in the first place.

The case clearly reflects the unbalanced gender equality in Senegalese culture, which goes as far as affecting professional situations on a construction site. Our background as Finnish university graduates was privileged, since our own cultural context allowed us to act from an equal basis. It was not that our professional capacity was questioned in Senegal either; it was more about the persistent gender positions and established ways of communication between men and women. In general, these positions are hard to avoid and predict.

#### **2.4.5 Another Roof Structure 'Gone Wrong'**

We encountered a similar 'roof structure crisis' almost 20 years later in Iringa, Tanzania, during the construction of a hostel for girls in the Nyang'oro Secondary School. Our constructor had appointed a young engineer as the supervisor to be responsible of the construction site. Despite several occasions when we discussed structures with the architectural drawings in front of us, the end-result became something quite different. This time we (the architects) did not have the possibility to survey the site frequently enough, so the opportunities to correct the mistake dissipated, due to limited budget and lack of time. Nor would the community who took part in the construction have approved of demolishing a roof that for them seemed completely appropriate.

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<sup>222</sup> See Section 1.4.2.1.

The foreman was working with uneducated local builders and was alone in charge of the execution of the design. Apparently, reading drawings was not his best competence, nor did he take notes or recall much of the discussions we had had in the early stages of construction. The idea of the ventilated roof structure, combined with elongated eaves that would protect the walls of compressed earth bricks, became disregarded as the roof was built in the way ‘it is normally done’ in the area.

It never really became clear to us whether ignoring the drawings was a result of a lack of professional competence, or if it was rooted in a deeper lack of appreciation of the design altogether. Either or, when working with low-resource communities, we have learned not to take such attitudes personally. They usually result from a lack of education and understanding of specialised expertise such as architectural design. The common ways of doing things, ‘*as they are usually done*’, is the easiest approach if one is not trained to question the prevailing habits, nor to strive for improvements. This roof structure episode taught us about the importance of sharing and dissemination of information in various formats, such as models in addition to drawings, and clarifying – over and over again – the main reasons for altering the ‘usual way of doing things’. Testing and making way for improvements is a process that does not happen in a single attempt. In this case, we were lucky to get another chance, as the same hostel design will be repeated in several secondary schools of the area. We now have the possibility to improve our processes and learn the best ways of engaging with the builders to iterate and test the anticipated low-tech design solutions for natural ventilation and wall protection.

#### 2.4.6 Cultural Measures

The misunderstandings and failures in communication discussed in the earlier chapters can largely be understood as stemming from cultural differences, which in most cases are tacit and unconscious until confronted in conflict situations. ‘Culture’ encompasses an array of vast, sometime elusive concepts, with varied definitions available depending on the chosen perspective. Being notoriously difficult to define, Apte summarised the problem in the *Encyclopedia of Language and Linguistics*: “Despite a century of efforts to define culture adequately, there was in the early 1990s no agreement among anthropologists regarding its nature.”<sup>223</sup> It is reasonable to assume that the issue has not become any less complicated to date.

The classic anthropological definition of culture was introduced by Edward B. Tylor, a British anthropologist and founder of cultural anthropology, in 1871: “Culture is that complex whole which includes knowledge, art, morals, law, custom and any other capabilities acquired by man as a member of society.”<sup>224</sup> Paul Oliver, in his *Encyclopedia of Vernacular Architecture of the*

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223 Apte, 1994:2001.

224 Tylor, 1871:1.



*World*,<sup>225</sup> defines culture as “the totality of values, activities and products, including buildings, of a society which give meaning and direction to the lives of its individual members. Culture is learned and is not transmitted genetically. A ‘culture’ is a society whose members share such a totality”.<sup>226</sup>

Another definition of culture was articulated at the Mexico City Declaration on Cultural Policies (Mondiacult, 1982):

Culture may now be said to be the whole complex of distinctive spiritual, material, intellectual and emotional features that characterize a society or social group. It includes not only the arts and letters, but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs; that it is culture that gives man the ability to reflect upon himself. It is culture that makes us specifically human, rational beings, endowed with a critical judgement and a sense of moral commitment. It is through culture that we discern values and make choices. It is through culture that man expresses himself, becomes aware of himself, recognizes his incompleteness, questions his own achievements, seeks untiringly for new meanings and creates works through which he transcends his limitations.<sup>227</sup>

There are at least three fundamental levels and layers of depth at which a culture manifests itself: (a) observable artefacts, (b) values, and (c) basic underlying assumptions.<sup>228</sup> The layer of artefacts is the easiest to observe, but difficult to interpret. We can observe and describe ‘how’ a community constructs its environment and basic behavioural patterns, but we may not be able to understand the underlying logic behind these patterns.<sup>229</sup> The ‘why’ escapes the observer, unless we look into the other layers of culture.



Traditional money from Sahel.  
PHOTO ANNE KINNUNEN

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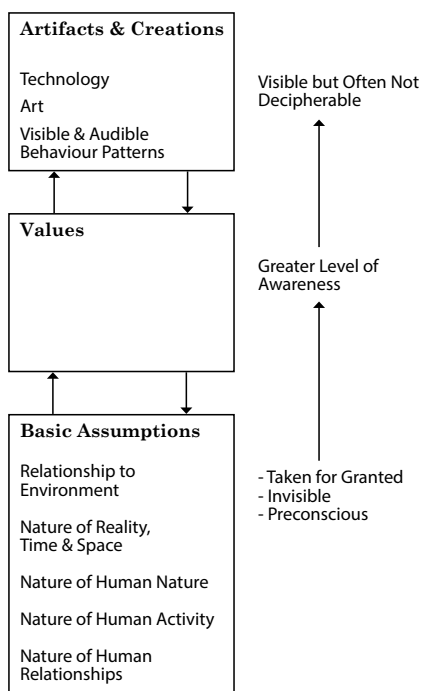
225 Oliver, 1997.

226 See also: Oliver, 2006:60.

227 UNESCO, 1982.

228 Schein, 1990:111.

229 Schein, 1984:3-4.



Schein describes the levels of depth of culture and their interaction:

“To really understand a culture and to ascertain more completely the group’s values and over behaviour, it is imperative to delve into the *underlying assumptions*, which are typically unconscious but which actually determine how group members perceive, think and feel. Such assumptions are themselves learned responses that originated as espoused values. But, as a value leads to a behaviour, and as that behaviour begins to solve the problem which prompted it in the first place, the value gradually is transformed into an underlying assumption about how things really are. As the assumption is increasingly taken for granted, it drops out of awareness.”<sup>230</sup>

Figure 3: The Levels of Culture and Their Interaction by Edgar Schein (1984).

In order to analyse why people behave the way they do, we need to understand the *values* that govern their behaviour – although these are hard to observe directly, mostly because the underlying reasons for their behaviour remain unconscious.<sup>231</sup> Even though certain aspects of culture may be physically visible, their meaning remains invisible, interpretable only by the ‘insiders’.<sup>232</sup>

A useful concept to consider in this context is that of the *habitus*, as outlined by Pierre Bourdieu.<sup>233</sup> He describes it as:

systems of durable, transposable dispositions... as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them.<sup>234</sup>

<sup>230</sup> Ibid..

<sup>231</sup> Ibid..

<sup>232</sup> Hofstede, 1994.

<sup>233</sup> Pierre Bourdieu (1930 – 2002) was a French sociologist, best known for his contributions to theories in the sociology of education and aesthetics, and achieving influence in related fields, such as anthropology, media and cultural studies, popular culture and the arts. <http://routledgesoc.com/category/profile-tags/habitus>. Accessed Oct. 3, 2020.

<sup>234</sup> Bourdieu, 1990:53.

Bourdieu's habitus refers to the "physical embodiment of cultural capital, to the deeply ingrained habits, skills, and dispositions that we possess due to our life experiences."<sup>235</sup> It is a permanent and largely unconscious, tacit way of seeing the world, of acting, behaving and thinking, enabling us to navigate in social situations. It is not merely intellectual, but rather it is the embodied social norms or tendencies which we have deeply internalized.<sup>236</sup> Wacquant interprets Bourdieu's habitus as:

a mediating notion that revokes the common sense duality between the individual and the social by capturing 'the internalisation of externality and the externalisation of internality' [in the famous expression of Bourdieu], that is, the way society becomes deposited in persons in the form of lasting dispositions, or trained capacities and structured propensities to think, feel, and act in determinate ways, which then guide them in their creative responses to the constraints and solicitations of their extant milieu.<sup>237</sup>

*Habitus* enables us to cope and improvise in social situations, given that we operate in environments that we are more or less familiar with. However, as Bourdieu often noted, the habitus is also prone to misperceptions, because people tend to take social inequalities as a given, natural state of things, instead of culturally developed. It is thus connected to social class formation and provokes the unconscious tendency of sustaining social hierarchies.<sup>238</sup>

Culture stems from one's social environment: It is learned, not inherited. Also, it is a distinguishable feature of human nature on the one hand, and of individual personality on the other.<sup>239</sup>

Personality is the unique composition of both inherited and learned features that distinguishes us as individuals. Human nature on the other hand, is something that we all share, as Geert Hofstede describes it: "The human ability to feel fear, anger, love, joy, sadness, the need to associate with others, to play and exercise oneself, the facility to observe the environment and talk about it with other humans..."<sup>240</sup> And Matsumoto argues:

Culture is as much an individual, psychological construct as it is a social construct. To some extent, culture exists in each and every one of us individually as much as it exists as a global, social construct. Individual differences in culture can be observed among people in the degree to which they adopt and engage in the attitudes, values, beliefs, and behaviours that, by consensus, constitute their culture.<sup>241</sup>

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235 <http://routledgesoc.com/category/profile-tags/habitus>. Accessed Oct. 3, 2020.

236 Calhoun et al, 2002; Bourdieu, 1990.

237 Wacquant, 2005:316.

238 Navarro, 2006.

239 Hofstede, 1994.

240 Ibid..

241 Matsumoto, 1996: 18.

The concept of belonging is fundamental to humanity, and a condition that most of us desire. The need of identifying oneself as belonging to, or being part of a society – be that a family, a tribe, a nation, or a professional community – relates to basic human needs. No human is an island, and questions of origin, of identity, of shared common ground, are always related to other humans, that is, to communities or societies to which we feel connected. The shared values of these societies largely define the limits of our experienced realities.

What then does it take to cross and exceed the boundaries of our limited cultural comprehensions, and see beyond the prejudices and presuppositions these memberships impose on us? Achieving such capacities may result from education – or from an individualistic, even an anarchistic mind, capable of waving aside conventional thinking inherent in the individual's own cultural context. The purpose of this research is to point out some of these cultural conventions that I have only become aware of by trial and error through my work, and I draw on such situations to develop possible pedagogical approaches that can help to scale and repeat such learnings in other contexts as well.

#### 2.4.7 Cross-Cultural Communication

Rules that apply to ways of communication in a cultural context are learnt very early, and they seem to persist. Cross-cultural psychology explores other cultures in order to discover cultural and psychological variations that are not present in one's own limited cultural experience.<sup>242</sup> It studies variations in human behaviour, taking into account the ways in which behaviour is influenced by cultural context.<sup>243</sup> Moreover, cross-cultural psychology is concerned not only with diversity, but also with uniformity: what is there that might be psychologically common or universal in the human species.<sup>244</sup> In John Berry's words: "Cross-cultural psychology studies the similarities and differences in individual psychological functioning in various cultural and ethno-cultural groups; the relationship between psychological variables and socio-cultural, ecological and biological variables; and the ongoing changes in these variables."<sup>245</sup>

It is important to note that, when examining cultural variables, we tend to start with the assumptions common to our own culture, which might not be sensitive in discovering the phenomena important in another culture.<sup>246</sup> It is difficult to avoid ethnocentrism<sup>247</sup>, that is, imposing the norms of one's own culture when valuing others.<sup>248</sup> As Berry goes on: "An obvious danger is the introduction of culture-specific meaning with instruments that originally

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242 Berry and Dasen, 1974.

243 Berry, 2002:1. Culture is defined here as a "shared way of life of a group of people." As in Lonner, 1980.

244 Lonner, 1980.

245 Berry, 2002:3.

246 Ibid.:1.

247 Ethnocentrism is judging another culture solely by the values and standards of one's own culture.  
<https://en.wikipedia.org/wiki/Ethnocentrism>

248 Berry, 2002:9.

were designed in one particular culture.”<sup>249</sup> Disciplines such as cross-cultural psychology, anthropology and sociology aim at reducing ethnocentrism, which prohibits us from seeing beyond our own presumptions, by recognising the limitations of our current knowledge and thinking.

We can safely presume that there are certain general and ‘universal laws’ in human behaviour, manifested and well-established in other disciplines. In sociology, there are universal sets of relationships (such as dominance); in linguistics, there are universal features of language (such as grammatic rules); and in anthropology, there are universal customs and institutions (such as tool making and the family).<sup>250</sup> However, as much as there are universal features in human behaviour that make us the species we are, there are differences in how we perceive the world, dictated by our indigenous culture. Anthropologists believe that human phenomena are sensitive to context, as Robert Edgerton says, “may they be situational, social or cultural.”<sup>251</sup> One of these context sensitive human phenomena is the conception of space – public or private – and how different peoples make use of and inhabit spaces around them. This is affected by gender and social relations, climate, religion, habits and taboos, local customs, sanitation, and by economic models and realities. These variables are manifested in spatial hierarchies, meaning the ways we as humans organise our habitat and built environment. Often these are affected and blurred by global influences, but some features of indigenous ways always remain for closer study and observation.

In architectural design, when working in another cultural context than one’s own, it is essential to recognise how ethnocentrism may affect the designer’s choices.<sup>252</sup> Neglecting the intrinsic cultural features prevents one from achieving meaningful spatial interpretations and may lead the practitioner to resort to superficial and scenographic architecture based on assumptions rather than inherent qualities of local culture. For a designer, remaining aware and conscious of one’s own attitude is critical: messages in communication that may be interpreted as arrogant, superior or authoritarian can considerably lessen the prospects of fruitful collaboration.

In the work of Hollmén Reuter Sandman Architects, we have come across our own ethnocentric prejudices many times, and similarly encountered those of others. These occasions have been important friction points and moments of reorientation and questioning one’s own way of seeing the world, and how it may differ from that of the ‘other’. In the end, however, our basic needs and those attributes that define our humanity are quite similar everywhere.

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249 Ibid..

250 Berry, 2002:4.

251 Edgerton, 1974:63-64.

252 Pallasmaa, 2015:10.

#### 2.4.8 Cross-Cultural Practice

A common architectural commission includes a wide range of activities, from orientation and analysis to familiarisation with context and the end users, from the actual architectural design with spatial, material and structural definitions to construction management and supervision, to feedback and assessment. Within these components there exist specialised tasks, which are framed by sequential and partly overlapping stages. As Howard Davis summarises: “The culture of building is the coordinated system of knowledge, rules, procedures, and habits that surrounds the building process in a given place and time.”<sup>253</sup>

In the humanitarian context with low-resource communities, however, the architect rarely has a pre-defined commission with a programme to follow. An essential part of humanitarian architectural practice is, first and foremost, to define the scope of the architectural intervention: deciding *what* to design, before *how* to design.<sup>254</sup> In practical terms, this means that the emphasis on orientation and analysis is greater than in a commercial project with a pre-defined programme. Much of the sustainability of the project is dependent on the architect’s ability to engage the community in this initial stage, as well as by its cultural and contextual appropriateness and sensitivity to local conditions.

As much as architectural practice is a technical performance, it is a manifestation of spatial art, where the transformation from physical to spatial experience is facilitated by the intention of the architect. In humanitarian projects, the ‘intention’ is disseminated and shared with the community through engagement and collaboration. The architect thus becomes a facilitator of the community’s intentions. This is not to say that the design itself would not communicate artistic quality and the professional capacity of the architect. It means that the project becomes part of the community’s mental landscape, integrating it with their intrinsic cultural values through participation.

Most often, the architect’s position in a humanitarian context is that of a foreigner, whereupon the principles of cross-cultural communication come into play. Here comes the human aspect: Interpersonal relations, community engagement and inspiration are largely dependent on the individual qualities and the personality of the architect. It is a demanding endeavour to move into unknown territories, both physically and psychologically, and expose oneself to personal interaction with people in the most vulnerable situations. The complexities of cross-cultural practices become multiplied in a humanitarian context. As Peter Ozolins aptly describes it:

Architects working within their own cultures have already internalized the values and beliefs that undergird their society, and they work from those unspoken parameters without reflection. However, working within a different and foreign context requires critical perception skills. This points to the impor-

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253 Davis, H., 2006:5.

254 See Section 2.3.7.



tance of the architect/designer as a participant-observer in the context of a given project. It takes time and listening, living and working with a given culture and group of cultures to begin to have an understanding of essential characteristics and how existing traditions interface with modernizing influences. The architect/designer called upon to design for another culture has to be careful to not simply mimic traditional forms without understanding why they exist and what aspirations the inhabitants have for their lives and culture.<sup>255</sup>

In cross-cultural humanitarian situations, architectural practice strives to achieve culturally appropriate designs. It is a practice where an interdisciplinary team with varied and multiple capacities becomes valuable: the more complicated the situation, the more responsibilities are shared. The architect may be the facilitator with a holistic view of the project and its management, but the work requires committed partners and an engaged community to become sustainable in the long term.

## 2.5 CONCLUDING REMARKS

In Chapter 2, *Architecture in the Age of Globalisation*, I have presented the overall theoretical and practical framework of my research, as far as it concerns the issues of cultural locality in low-resource communities, and ‘*the role of architecture and architects in the context of global humanitarian challenges*’.

The chapter discussed the modern movement, the *International Style* and critical regionalism, and how the role of architect was perceived before the era of globalisation. As the *International Style* slowly dissipated, more diverse conceptions, such as critical regionalism, entered the architectural discourse. This reflection is related to the evolving role of the architect from the perspective of authority and authorship: how modernism saw the architect as a *solo-creator*, whereas in the humanitarian context the architect is more a facilitator and a team player. This presents a major shift in the architectural profession and the perception of the role of the architect.

In Chapter 2, I also discussed the contested phenomenon of ‘humanitarian architecture’, its emergence and institutionalisation, its counterarguments and the dimension of the ‘unreciprocated gift’, its temporal modes and requirements of the architect as a humanitarian practitioner. I presented examples of situations and conditions that stem from situated practices in the context of humanitarian challenges, and the meaning of cultural differences for the practice of architecture.

These reflections are framing Chapter 3, in which I will present the methodological framework of my research and describe the set of data which I have used as my *research corpus* for PART I of the thesis. Through the analysis of this data, I will reflect on ‘*the cultural features one needs to acknowledge when working in a cultural context other than one’s own*’.

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255 Ozolins, 2015:15.



Dogon mask from Mali.  
PHOTO ANNE KINNUNEN

## Chapter 3

# CROSS-CULTURAL PERSPECTIVES IN ARCHITECTURAL DESIGN PRACTICE

## 3.1 INTRODUCTION

In Chapter 3, I will present the research data that stems from the projects by Hollmén Reuter Sandman Architects (HRS), as described in Chapter 1.<sup>256</sup> This data is an (auto)ethnographic collection of travel logbooks which I have co-produced in collaboration with my colleagues on our field trips, during the design and construction of the said projects.

The reflections and narratives I'm presenting concern the cultural factors that affect architectural practices with low-resource communities and those features that make architecture identifiable to a certain group of people. I also consider the means to engage a community to participate in an architectural project and what it takes to turn a community initiative into a sustainable development. This chapter particularly seeks to answer my research question *'What are the cultural features one needs to acknowledge when working in a cultural context other than one's own?'*

Given the fact that my *research corpus* is a set of data that has emerged over a long period of time,<sup>257</sup> it is necessarily fragmented. The writing of travel memos became a paramount exercise in our practice early on, because the amount of information to be shared within our team of three grew incrementally. It became a systematic habit, although in the very first trips to Senegal we can still see a less rigorous approach. On the other hand, the memos from the first field trips include more sketches and drawings documenting the atmospheres of the environment. These are by no means less valuable than the textual material that later dominates.

The nature of the data being longitudinal, I spent a while on exploring suitable methods for analysis and interpretation. In Section 3.2 I will present some alternative approaches and methodologies that I considered, which also contribute to my approach. However, the alternatives clearly pointed towards ethnography and hermeneutics, which are a particular fit for the aims and purposes of this research. I will explain my chosen methodological framework in more detail in Section 3.3.

In the following sections I will describe the contents of my *research corpus* in more detail: the quantitative and qualitative dimensions of the data, and hermeneutic content analysis as a method of interpretation. Finally, Section 3.6 presents my reflection on cultural variables affecting architectural design with low-resource communities. These result from recurring issues and themes in the data, identified through thematic coding and categorisation. As a summary of the reflection, I will outline an epistemological framing of an

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256 See Section 1.4.1.

257 From the first field trip to Senegal in February 1996 to Nyang'oro, Tanzania in October 2018.

architectural project in a humanitarian context, as an alternative way of describing architecture as a socio-cultural construction.

The methodologies presented in this chapter only outline the research methods used for the case studies of architectural design practice in low-resource communities. In Chapter 4, I will outline the methods concerning learning and interdisciplinary pedagogies in universities, which are the main topics in PART II of the thesis.



### 3.2 ALTERNATIVE APPROACHES

My *research corpus*, in other words the logbooks we wrote during our field trips in Africa, was never deliberately intended to become part of academic research. The field memos were meant for sharing and reminding us of the events and issues discussed, encountered and observed. In the end, the entity of logbooks grew into a set of data that holds the incrementally accumulated knowledge from years of architectural practice with low-resource communities. It is written collaboratively by our team of three, including descriptions of the processes, but also some fragmented, mundane and personal data that communicate professional relations and friendship. I owe a great debt of gratitude to Jenni and Helena for their support and for allowing me to use our shared coproduction as data in this thesis.

A set of data can be analysed and interpreted in multiple ways. Depending on the approach, theoretical framework and methods used, the same data will give different answers to different researchers. Choosing the right – that is, suitable – methods for approaching and analysing a set of data directs the outcomes and findings of the research.

My intention in this thesis is to investigate the written material of travel logbooks with an ‘anthropological twist’, focusing my gaze on the cultural differences and similarities we share, and their influence on the work of an architect. In the following, I outline the approaches I considered – and which, to a certain extent, have contributed to and influenced my research.

#### *Grounded theory*

In grounded theory, the data collection aims at starting with a *tabula rasa*. The basic assumption is that the observer (i.e., the researcher) does not have foreknowledge of the object of research. Grounded theory, as the term suggests, aims at producing a theory that fits a selected data set, achieved through a complex procedure of open, axial and selective coding and triangulation.<sup>258</sup>

Some of the categorising procedures I chose to use may resemble grounded theory coding, but the premises of my study differ fundamentally from grounded theory: My aim is not to produce a theory, rather to enhance deepening knowledge and holistic understanding through interpretation – neither can I relate to the requirement of not having foreknowledge of the issues studied. However, some of the grounded theory tools in coding and categorising have been helpful and informative in the early stages of my thesis.

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258 Glaser and Strauss, 1999.

### *Heuristic tools*

The categorisation of my data also draws from heuristic tools, which Uwe Flick describes as “tools for dealing with a complex issue leading to first solutions and stimulating further analysis”.<sup>259</sup> It is a particularly useful method in drawing first-hand evaluations, offering a starting point for defining categories.

In their book, *Transdisciplinary Sustainability Studies: A Heuristic Approach*, Katri Huutoniemi and Petri Tapio elaborate on “the ‘non-disciplinary’ aspects of inquiry that are involved in transdisciplinary efforts”.<sup>260</sup> They call their approach tentatively a ‘heuristic approach’:

It [heuristic approach] takes wicked problems as its starting point, but contrary to the previous research that mostly responds to the management, governance, or decision challenges posed by these problems... it takes wickedness as an epistemological challenge. The very notion of wicked problems implies that the definition of a problem is in the eye of the beholder, and can be traced back to the relationship between an observer and the surrounding world. Instead of trying to reconcile different views of a problem, a more helpful strategy might be to search for ‘cognitive shortcuts’ to framing and dealing with the situation. From the vantage point of reaching sustainability, not every problem definition is equally valid or a viable representation of a situation. At the same time, however, there are no ready-made criteria for defining complex situations, or, for that matter, separating good definitions from poor ones. In situations of complexity and uncertainty, we can only take an experimental approach to problem solving rather than an analytically exact one.<sup>261</sup>

### *Action Research*

One might also interpret this study as ‘action research’. Some definitions, as presented by Patrick Costello,<sup>262</sup> argue that “action research is a process of systematic reflection, enquiry and action carried out by individuals about their own professional practice,”<sup>263</sup> and “action research is a term used to describe professionals studying their own practice in order to improve it.”<sup>264</sup>

Action research is often used by educators, and it is indeed a useful method for critical reflection, problem solving and learning. It usually adopts an approach in which the action and research happen concurrently, with the iterative intention of moving from action to analysis and back to action again.

However, this research is not so much about analysing the *practice per se*, but it is more a question of identifying cultural issues and features encountered *during* the practice that were found to be influential in relation to the practice. The fact that this study takes a retrospective perspective in relation to the data

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259 Flick, 2014:538.

260 Huutoniemi and Tapio, 2014:2.

261 Ibid., 2014:2-3.

262 Costello, 2003.

263 Frost, 2002:25.

264 GTCW, 2002:15.



eliminates the option of simultaneous analysis and improvement. Certainly, our aim was always to improve our practices, which is equally the aim of action research, but the scope and analysis of this research is not to analyse the projects and practices as such, rather to achieve a deeper understanding of the cultural issues that frame the working environment within ‘another cultural context’ than what is inherently our own. The distinction, admittedly, may be obscure.

### *Practice-based research*

Practice-based research is notoriously difficult to define, as it challenges the instrumentalities and methodologies of academic research which have been developed and established over centuries. Practice-based research combines contradicting concepts when seen from a traditional academic perspective. Research is an activity that *looks at* a context or a phenomenon, whereas practice is an activity that takes place *within* that context. Combining these two dimensions is sometimes contradictory and ways of integrating practice-based research in the degree regulations of universities are still emerging. For example, at Aalto University, the Department of Architecture is still debating even the basic definitions of practice-based research.

Practice-based research is intended to be conducted in parallel with the data collection and analysis, in a reflective and analytical relation. Ray Lucas describes it as a *loop of reflective practice*, where the designers constantly critique and reflect on their own actions and change when appropriate.<sup>265</sup> Acting and thinking appear as a continuum.

My understanding of practice-based research is that it concludes in the form of an actual project. The outcome, the design or the architectural project, is the result of the analysis, inquiry and exploration, developed into a value-based selection of choices from a myriad of available alternatives. The design is the *conclusion* of practice-based research, a manifestation of distilled perspectives and of the design choices that were informed by parallel reflection and developed into a design through a creative process.

The *research corpus* I have analysed for this research was produced over a period of 22 years, by a team of three people, and never with the deliberate intention of it becoming the object of an academic study. Furthermore, any systematic analysis with academic relevance was not conducted between the projects.

This thesis is inherently informed by our practice but as the reflection is not conducted in parallel with the practice, I do not find it suitable to call my thesis practice-based research from the academic perspective. Nor am I presenting the actual architectural projects as conclusions of my research, rather as a vehicle for understanding various cultural environments, and how cultural differences affect the work of an architect.

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<sup>265</sup> Lucas, 2016:43.

## Summary

The research approaches described in this section – grounded theory, heuristic tools, action research and practice-based research – are established qualitative research methodologies in the humanistic and social sciences. They are equally valuable and useful methods for architectural research that seeks to enhance deeper understanding of the discipline and its relations to the world and societies.

Due to the specific characteristic of my *research corpus*, as well as the extended period of the production of the logbooks, these approaches, however, did not seem fit for my thesis. Even though the data stems from architectural practice, the nature of the data as a written entity of notebooks points towards a method that allows textual interpretation.

Baskets from Rwanda and Tanzania.  
PHOTO ANNE KINNUNEN



### 3.3 METHODOLOGICAL FRAMEWORK OF THE STUDY

The analysis of the data used for this research aims at revealing cultural aspects, common denominators and relations that determine spatial arrangements and the ways we as humans conceptualise and inhabit space in different cultural contexts, as well as cultural features affecting the design profession and building processes.

The research question this section seeks to answer is: *‘What are the cultural features one needs to acknowledge when working in a cultural context other than one’s own?’* Further thematic observations concentrate on questions such as *‘What are the determining factors of local architecture? How much does a building need to bear resemblances to local building traditions in order to do so? What are the features that allow a community to adopt a building project? What are the specific cultural features the architect has to study and internalise, in order to design and manage the project and direct her/his conduct in an ideally supportive way?’*

#### 3.3.1 Ethnography as a method

Ethnography is a research method closely connected with anthropology. Lucas puts it thus:

It is a deeply personal and exposing form of research methodology, and relies upon the openness of the researcher to a completely alternative view of the world and a way of life: the ultimate aim is to understand some of the different ways in which it is possible to be human...It is impossible to separate the researcher from their work when conforming to this model.<sup>266</sup>

More than a method, ethnography is a matter of *attitude*, meaning that the researcher is open to the field, and collects any data that helps to understanding it.<sup>267</sup>

The approach and underlying philosophy of this study is partly autoethnographic, which includes the notion of the author being part of the research setting. A potential lack of objectivity follows the position of that membership. According to Aull Davies, the goal of reflexive ethnography –and autoethnography – is to “seek to develop forms of research that fully acknowledge and utilise subjective experience as an intrinsic part of research.”<sup>268</sup> Leon Anderson argues that “autoethnographers should illustrate analytic insights through recounting their own experiences and thoughts as well as those of others. Furthermore, they should openly discuss changes in their beliefs and relationships over the course of fieldwork.”<sup>269</sup>

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<sup>266</sup> Lucas, 2016:38–39.

<sup>267</sup> Flick, 2014:42.

<sup>268</sup> Davies, 2008:5.

<sup>269</sup> Anderson, 2006:384.

Ethnography is a process of creating and representing knowledge based on the ethnographer's own experiences<sup>270</sup>. Sarah Pink writes that the aim is not to produce an "objective or truthful account of reality", but "to offer versions of ethnographers' experiences of reality that are as loyal as possible to the context, negotiations and intersubjectivities through which knowledge was produced."<sup>271</sup> The methods used entail collaboration and participation, involving a variety of informants in multiple stages of the process. In addition to the observable, recordable realities that may be translated into written notes and texts, it may include "objects, visual images, the immaterial and the sensory nature of human experience and knowledge."<sup>272</sup> In my case, the collection of data has been just as much about the written logbooks as it has been about visual and non-verbal communication, that is to say drawings, photographs and artefacts in different forms.

Each project and each field trip have contributed to a deepening understanding of the cultural phenomena related to architectural design processes in different cultural contexts. The process can also be described as a *hermeneutic circle*, meaning, as Debesay, Nåden and Slettebø say, that "understanding is achieved by our interpreting within a circular process, in which we move from a whole to the individual parts and from the individual parts to the whole."<sup>273</sup>

### 3.3.2 Hermeneutic Circle

Hermeneutics refers to an ancient Greek word '*hermeneutikos*', meaning to *interpret*.<sup>274</sup>

Hermeneutics promotes human potential for understanding the meaning of language to expand the infinite possibilities of human thought.<sup>275</sup> Modern hermeneutics refers to the art of understanding and interpretation of both verbal and non-verbal communication.<sup>276</sup> Hans-Georg Gadamer suggests that "hermeneutics is not a method but a fluid set of guiding principles aiding the human search for truth in the concealed forgetfulness of language."<sup>277</sup> The issue therefore is not about finding the *author's* truth, but realising what is the truth for the reader, that is, how it is interpreted.<sup>278</sup>

According to Gadamer, all interpretations are derived from a basic level of understanding or pre-judgment and accepting the inner world of subjectivity.<sup>279</sup> He identifies the concept of prejudice or *praejudicium* as a good starting point to affect the hermeneutic circle<sup>280</sup>, by defining a temporal judgment that

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270 Pink, 2007:22.

271 Ibid..

272 Ibid..

273 Debesay, Nåden and Slettebø, 2008:58.

274 Palmer, 1969. In Regan, 2012:288.

275 Ibid..

276 Mir, 2015:113.

277 Gadamer, 2004. In Regan, 2012:288.

278 Ibid..

279 Gadamer, 2004.

280 Regan, 2012:296.

is “...rendered before all the elements that determine a situation have been finally examined...”<sup>281</sup> The term *praejudicium* refers to judgements, pre-supposition, bias, prejudices from cultural traditions, whether positive or negative.<sup>282</sup> The ‘expectation’ of what has been experienced before gives the interpreter a working hypothesis from which to further develop understanding.<sup>283</sup>

Central to Gadamer’s hermeneutics is the idea of holding oneself open to conversation with others.<sup>284</sup> He suggests that testing ideas on other people is part of the learning process towards better understanding of our own prejudices informing our own judgements.<sup>285</sup> Through dialogue with others, we can recognise other possible interpretations and find new ways to accommodate new thinking.<sup>286</sup>

Alberto Perez-Gomez describes hermeneutics in architectural design when he states:

Through a dynamic of distancing and appropriation, hermeneutics leads to self-understanding. It is precisely due to our distance from the subject of study, i.e., the texts and artefacts of our architectural tradition, that we can find possibilities for the present. While it is true that our reconstruction of the ‘world of the work’ is never endowed with absolute certainty, and that we cannot avoid being late-twentieth century men and women, the wager is that this effort, coupled with a self-consciousness about our own prejudices, will amount to a ‘fusion of horizons.’<sup>287</sup>

He continues: “In hermeneutics truth is interpretation, always revealing-concealing and never posited absolutely and objectively. Yet hermeneutics is able to account for change, growth, and perhaps even evolution.”<sup>288</sup>

The projects selected for this research have all been very different and have engaged the architects in numerous ways, each shaping a multiplicity of roles that the architect has had to adapt to, sometimes well beyond what is conceived of as the ‘traditional role’ of an architect. The width of my perspective has evolved from project to project, incrementally raising awareness and knowledge of my position as a ‘foreign’ actor – *toubab* or *mzungu*<sup>289</sup> – in a process that is meant to lead to the augmented capacity of a local community and accumulation of knowledge. The concept of *otherness*, and how the cultural encounters have eventually shaped the projects, obviously affects the design processes on multiple levels. This research and data analysis aim to reflect on these issues in a consistent manner.

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281 Gadamer, 2004:269.

282 Ibid.:31.

283 Ibid.:291.

284 Michelfelder and Palmer, 1989.

285 Regan, 2012:295.

286 Gadamer, 2004.

287 Perez-Gomez, 1999:79.

288 Ibid..

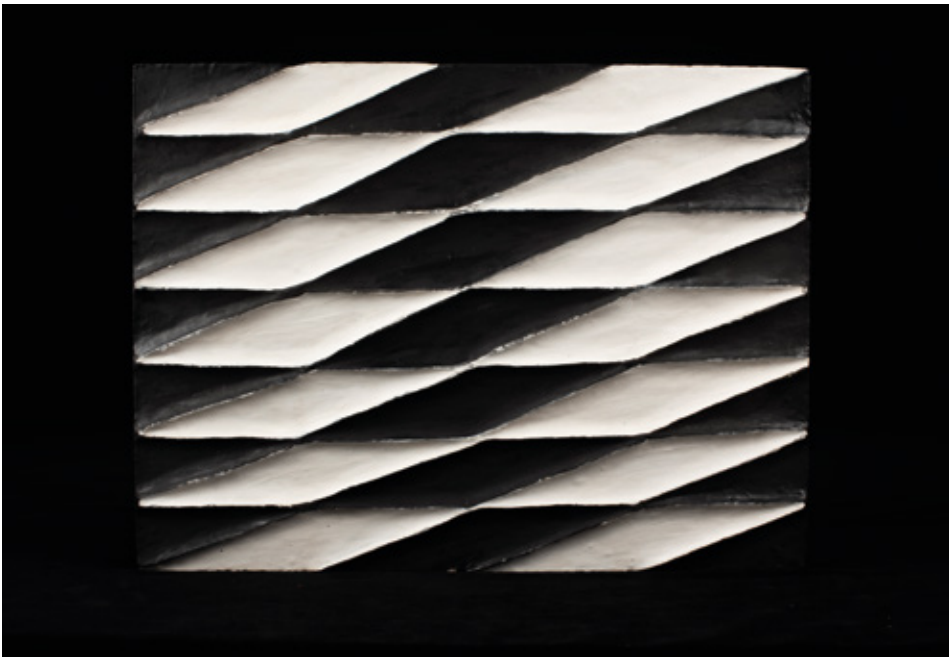
289 “Toubab” is a Wolof language expression used in Senegal and West Africa, meaning “white people”. The equivalent in Eastern Africa is the Swahili word “mzungu”, which refers to white people of European descent.

### 3.4 RESEARCH DATA

Observations in this research are based on the material produced and collected during the design and construction of architectural projects carried out by HRS Architects in the African continent, as introduced in Chapter 1.<sup>290</sup> The processes have been documented during project-related field trips and reported in written logbooks. In addition to these, a wide array of photographs and drawings and other visual material has been collected.

The written data consists of 34 travel logbooks and field memos from five separate projects, from a period extending from February 1996 to October 2018, comprising altogether 376 pages of either handwritten notes (225 pages from Senegal) or Word documents (total of 151 pages from other cases). These are summarised in Figure 4.

Rwandan Imigongo.  
PHOTO ANNE KINNUNEN



290 See Section 1.4.1.



## PROJECT DATA

<b>Projects</b>	<b>Women's Centre in Rufisque, Senegal</b>  data: drawings, hand-written notes from SH, JR, HS	<b>TunaHAKI Orphanage, Moshi, Tanzania</b>  (unbuilt)  data: collected fieldtrip logbooks by HRS team, together with Donna Cohen	<b>A.P.E. Learning Centre, Cairo, Egypt</b>  (unbuilt)  data: collected fieldtrip logbooks by HRS team	<b>KWIECO Shelter House, Moshi, Tanzania</b>  data: collected fieldtrip logbooks by HRS team	<b>Nyang'oro Secondary School Girls' Hostel, Iringa rural, Tanzania</b>  data: collected fieldtrip logbooks by HRS team
<b>Local partner</b>	Centre ARC / Jigeen yi Mbooloo	TunaHAKI Foundation / TunaHAKI Orphanage / Cohen+Armstrong Architects	Association for the Protection of the Environment (A.P.E.)	Kilimanjaro Women Information Exchange and Community Organisation (KWIECO)	Lyra in Africa / Iringa Municipality / Nyang'oro Secondary School
<b>User group</b>	Women's groups in Gouye Aldiana, Rufisque	TunaHAKI Orphanage	Zabbaleen – the trash collector community in Cairo. Activities organised by A.P.E.	Victims of domestic violence – Women (some with children) in Moshi area, clients of KWIECO	Girls attending the Nyang'oro Secondary School
<b>Timeframe of field trips</b>	Feb 1996 – Oct 2001	Sept 2007 – Jan 2009	March 2010 – April 2012	March 2011 – May 2015	Oct 2016 – Oct 2018

## RESEARCH DATA DESCRIPTION

<b>fieldtrips dates</b>	<ol style="list-style-type: none"> <li>26.2.-12.3.1996</li> <li>11.-24.2.1998</li> <li>25.10.-8.11.1999</li> <li>21.2.-2.3.2000</li> <li>23.9.-5.10.2000</li> <li>1.-21.12.2000</li> <li>15.2.-12.3.2001</li> <li>26.4.-4.5.2001</li> <li>13.-23.8.2001</li> <li>11.-26.10.2001</li> </ol>	<ol style="list-style-type: none"> <li>2.-12.9. 2007</li> <li>5.-16.3. 2008</li> <li>9.-18.8. 2008</li> <li>24.-29.1. 2009</li> </ol>	<ol style="list-style-type: none"> <li>21.-27.3.2010</li> <li>24.-30.10.2010</li> <li>25.-28.1.2011</li> <li>31.3.-4.4.2012</li> </ol>	<ol style="list-style-type: none"> <li>27.3.-2.4.2011</li> <li>23.-28.10.2012</li> <li>7.-13.1.2013</li> <li>20.-27.4.2013</li> <li>1.-7.9.2013</li> <li>15.-18.12.2013</li> <li>25.2.-5.3.2014</li> <li>10.-11.6.2014</li> <li>13.-21.10.2014</li> <li>1.-7.1.2015</li> <li>3.-6.3.2015</li> <li>7.-13.5.2015</li> </ol>	<ol style="list-style-type: none"> <li>24.- 6.10.2016</li> <li>17.-24.1.2017</li> <li>23.-29.9.2017</li> <li>2.-6.2.2018</li> <li>20.-23.10.2018</li> </ol>
<b>Logbook ID</b>	WomC-1 (54 pages) WomC-2 (4 pages) WomC-3 (69 pages) WomC-4 (23 pages) WomC-5 (31 pages) WomC-6 (11 pages) WomC-7 (9 pages) WomC-8 (9 pages) WomC-9 (4 pages) WomC-10 (11 pages)	TunH-1 (9 pages) TunH-2 (9 pages) TunH-3 (6 pages) TunH-4 (3 pages)	APE-1 (4 pages) APE-2 (5 pages) APE-3 (4 pages) APE-4 (5 pages)	KWI-1 (5 pages) KWI-2 (9 pages) KWI-3 (7 pages) KWI-4 (10 pages) KWI-5 (9 pages) KWI-6 (6 pages) KWI-7 (3 pages) KWI-8 (3 pages) KWI-9 (4 pages) KWI-10 (7 pages) KWI-11 (5 pages) KWI-12 (5 pages)	Nya-1 (7pages) Nya-2 (12 pages) Nya-3 (10 pages) Nya-4 (7 pages)
<b>Number of pages</b>	225 pages	18 pages	18 pages	70 pages	45 pages

Figure 4: Research data description. The Logbook ID indicates the particular section of data, as referred to in the footnotes in Section 3.6.

The data includes observations and narratives of day-to-day activities, of situations and events related both to professional and non-professional positions of the co-authors. The field trip logbooks feature meeting notes, general findings and descriptions of all encountered issues along the processes of the building projects. It is a collection of notions and observations, condensed around the architectural design processes, documenting those events and aspects that have affected the design – be they social, cultural, economic or technical.

The written data comprises the main body of data for this research. However, there coexists a layer of knowledge that has been produced and documented in drawings, photographs and objects, which hold memories, interpretations and readings of the experienced realities. In conjunction with the written memos, a collection of hand drawn sketches and photographs in different formats compose a relevant set of data. In addition, a number of objects and artefacts (such as textiles, utensils, masks) that have travelled home with me have added to my embodied experience and knowledge of the cultures that produced them. A few examples of these have made it into this publication, creating a fragmented visual narrative that complement my reflexions based on the written data. Some notions are also related to the *Interplay of Cultures* course's field trips with Aalto University students to Kigali, Rwanda, and Zanzibar, Tanzania, which are discussed later in the thesis.

### 3.5 HERMENEUTIC CONTENT ANALYSIS AS INTERPRETATION

Hermeneutics is the method or “*art of explaining cultural manifestations*”, according to Ruth Wodak.<sup>291</sup> It does not require or rely on “any *systematic description, categorization and/or analysis of form and content*, of text and context, or of language in use.”<sup>292</sup> Instead, “hermeneutics attempts to *grasp and produce* meaning relations as human behaviour, [sic] and interaction is considered to be meaningful and to make sense.”<sup>293</sup>

Hermeneutic text analysis assumes that the meanings of the qualitative and descriptive material can never be identified unequivocally. This stems from the fact that the process requires studying the smallest ‘meaning units’, while the meaning of the units would not represent the meaning of the whole.<sup>294</sup> This signifies that the meaning units “can only be understood in the context of the whole” while “the meaning of the whole is only accessible via its parts.”<sup>295</sup> Furthermore, “all research activities, from conceptualisation to interpretation of analytic results, are always linked and must therefore be understood in relation to their cultural, historical, political, and social contexts.”<sup>296</sup>

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291 Wodak, 2011:624.

292 Ibid..

293 Ibid..

294 Bergman, 2010.

295 Wodak, 2011:624.

296 Ibid..

Wodak<sup>297</sup> presents four heuristic 'levels of context' that can be implied in the hermeneutic approach:

- i) the immediate text of the communicative event in question
- ii) the intertextual and interdiscursive relationship between utterances, texts, genres and discourses
- iii) the extralinguistic social and environmental variables and institutional frames of a specific 'context of situation'; and
- iv) the broader socio-political and historical context which discursive practices are embedded in and related to.

I have applied these principles in my process of defining the appropriate meaning units, which I have found relevant to my own research. According to the hermeneutic approach, I relied on my *praejudicium*<sup>298</sup> of the themes described in the data as a starting point for interpretation. My content analysis proceeded in the following order:

- 1. identifying meaning units
- 2. grouping the meaning units according to their identified similarities
- 3. labelling or associating the similar or related meaning units into concepts
- 4. dividing the concepts into categories and subcategories according to a more detailed analysis
- 5. creating a synthesis of concepts by describing the related meaning units in a narrative format

The analysis can also be described as a layered structure, in which the first layer comprised a thorough reading of the entire *research corpus*, text by text, project by project, while at the same time pointing out and identifying meaning units that could be coded or attached to a concept that made sense in the framework of my research questions.

Each project revealed specific recurring themes that I have collected and presented in Figure 5. During the reading of the data I was able to identify issues such as hierarchies in the informal and professional encounters, women solidarity, gender relations and male dominance, menstruation and sanitation, urban spaces and climatic issues, local materials and mutual learning, governmental collaboration, land ownership, fundraising, etc. They reflect the everyday and mundane, as well as professional situations, design processes and communication that we encountered during the project fieldtrips and documented in the written logbooks from each trip.

Further reading of the data allowed me to group the themes under the subtitles Context, Culture, Knowledge and Society. In Figure 5, the themes are gathered under these subtitles, revealing those themes that were the most prominent in each project. As became apparent, some of the themes were clearly identifiable in all the projects, whereas some were related to only a few.

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297 Wodak, 2011:628.

298 Regan, 2012:296.

In the next stage of the reading, I produced a metalevel documentation of the entire data, that blended different projects and began to reveal the relations of the different meaning units that were also connected to the above-mentioned themes. Further on, the relations of the meaning units equally revealed the relation of the themes they were attached to. This allowed me to present categories that would combine related themes (later subcategories) under larger thematic areas. These categories, eventually developed from the data driven concepts, are presented in Figure 6.

I continued to produce narrative descriptions of the identified categories, where I was able to reflect on and interpret the thematic areas or concepts in their cultural, technical, political and social contexts. From interpretation followed understanding – which means understanding not the language, but the larger contexts and the meanings found within the text itself.<sup>299</sup>

The presented categories are strictly based on the phenomena appearing in the written data. The categories and narratives describe the cultural variables arising from the selected data set, interpreted through my own experiences and worldview. The issues that I have recounted in my reflections are those context, culture, knowledge and society related aspects that have affected and influenced the design processes and set the framework for an appropriate architectural design. I have also included direct quotations from the logbooks in the reflection, to better connect the encountered realities to the experience of the reader.

Clearly, there may be other relevant topics that would fall into and complement my identified categories. However, in the framework of this research, the presented ones are those that appeared from the selected data. Another data set, or another reading of the same data might produce different interpretations. Any deficit or lack of justification is due to the inaccuracy of documentation or result from the chosen method of synthesis.

The categories created through the text analysis are applied in Section 3.6, in which the emerging topics are discussed in more detail.

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299 Varto, 1991.

### 3.6 CULTURAL VARIABLES AFFECTING ARCHITECTURAL DESIGN

When reviewing the data, I have identified the following categories from the notebooks and travel memos of all the previously described projects, which reveal recurring issues from the logbooks and which, in my opinion, define the cultural variables that I see as the determining factors of architectural design in context of these projects. I have divided and identified categories under four main sections, related to a) context, b) culture, c) knowledge and technology and d) society. Figure 5 summarises the key themes that arose in each category in each project.

Concepts	Women's Centre in Rufisque, Senegal	TunaHAKI Orphanage, Moshi, Tanzania (unbuilt)	A.P.E. Learning Centre, Cairo, Egypt (unbuilt)	KWIECO Shelter House, Moshi, Tanzania	Nyang'oro Secondary School Girls' Hostel, Iringa rural, Tanzania
<b>Context</b>	<ul style="list-style-type: none"> <li>• climate and ventilation</li> <li>• urbanisation</li> </ul>	<ul style="list-style-type: none"> <li>• spatial hierarchy</li> <li>• indigenous architecture</li> <li>• public spaces</li> <li>• safety</li> </ul>	<ul style="list-style-type: none"> <li>• indigenous architecture</li> <li>• spatial hierarchy</li> <li>• climatic conditions</li> <li>• safety</li> </ul>	<ul style="list-style-type: none"> <li>• climatic conditions</li> <li>• spatial hierarchies</li> <li>• urbanisation, traffic</li> <li>• public space</li> </ul>	<ul style="list-style-type: none"> <li>• safety</li> <li>• climate and ventilation</li> </ul>
<b>Culture</b>	<ul style="list-style-type: none"> <li>• community engagement</li> <li>• concept of time</li> <li>• women architects vs. male dominance</li> <li>• gender equality</li> <li>• wom. solidarity</li> <li>• ownership</li> <li>• community</li> <li>• "not for profit" motivation</li> </ul>	<ul style="list-style-type: none"> <li>• tourism</li> <li>• professional communication</li> <li>• cultural habits</li> <li>• new innovations</li> <li>• recycling</li> <li>• cultural habits</li> <li>• engagement</li> </ul>	<ul style="list-style-type: none"> <li>• NGO engagement</li> <li>• gender equality</li> <li>• social relations</li> <li>• religion</li> <li>• engagement</li> <li>• professional communication</li> <li>• social inequality</li> </ul>	<ul style="list-style-type: none"> <li>• gender equality</li> <li>• domestic violence</li> <li>• NGO engagement</li> <li>• religion</li> <li>• cultural habits</li> <li>• professional communication</li> <li>• social inequality</li> <li>• education</li> </ul>	<ul style="list-style-type: none"> <li>• translations</li> <li>• cultural habits</li> <li>• engagement</li> <li>• gender relations</li> <li>• menstruation</li> <li>• communication</li> </ul>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>• local expertise</li> <li>• recycling</li> <li>• local materials</li> </ul>	<ul style="list-style-type: none"> <li>• sanitation</li> <li>• local knowhow</li> <li>• local materials</li> <li>• water collection</li> <li>• wind turbines</li> </ul>	<ul style="list-style-type: none"> <li>• waste recycling</li> <li>• sanitation</li> <li>• research</li> <li>• recycled &amp; local materials</li> <li>• environmental awareness</li> </ul>	<ul style="list-style-type: none"> <li>• local knowhow</li> <li>• environmental awareness</li> <li>• sanitation</li> <li>• local materials</li> <li>• recycling</li> <li>• solar energy</li> </ul>	<ul style="list-style-type: none"> <li>• local materials</li> <li>• local knowhow</li> <li>• sanitation</li> <li>• mutual learning</li> <li>• research</li> </ul>
<b>Society</b>	<ul style="list-style-type: none"> <li>• land ownership</li> <li>• corruption</li> <li>• bureaucracy of govn. funding</li> </ul>	<ul style="list-style-type: none"> <li>• local regulations</li> <li>• town planning</li> </ul>	<ul style="list-style-type: none"> <li>• govn. collaboration</li> <li>• local regulations</li> </ul>	<ul style="list-style-type: none"> <li>• fundraising</li> <li>• govn. collaboration</li> <li>• corruption</li> <li>• feedback</li> </ul>	<ul style="list-style-type: none"> <li>• funding &amp; donations</li> <li>• politics &amp; transparency</li> <li>• local regulations</li> <li>• feedback</li> </ul>

Figure 5: Recurring issues from the logbooks.

**CONTEXT (3.6.1)**

- Climate and Local Conditions
- Concept of Public Space
- Spatial Hierarchies
- Designing for Safety

**CULTURE (3.6.2)**

- Cultural Habits and Taboos
- Gender and Social Relations
- Religion
- Language and Translations
- Cross-Cultural Communication
- Ethical Behaviour
- Rooting a Project
- Local Organisations

**KNOWLEDGE AND TECHNOLOGY (3.6.3)**

- Sanitation
- Local Materials
- Environmental Awareness
- Local Knowhow
- Exchange of Knowledge

**SOCIETY (3.6.4)**

- Regulations and Interpretation
- Governmental Collaboration
- Fundraising and Donations
- Transparency in Politics
- Feedback and Response

Figure 6: Categories arising from the data.



As discussed in the previous section, the reading of the logbooks initiated a hermeneutic circle, which, according to Gadamer, allows understanding of “the whole in terms of the detail” and vice versa.<sup>300</sup> Following a circular hermeneutic interpretation, some of the categories are thus defined from specific to general, while maintaining flexibility in their interpretations.

Due to the auto-ethnographic nature of the research and data collection, I have developed a foreknowledge of the issues and themes presented in most of the categories over time. I have reflected on this foreknowledge against the recent and more systematic way of looking at the data through a hermeneutic circle. For the most part, it has helped me to better articulate my interpretations and clarify my perceptions of the experienced cultural realities.

Each of these categories could easily be expanded into an extensive study of its own. However, within the scope of this research, I have discussed the issues in relation to the collected data as the framework for this analysis. The order of the presented issues and categories reflects my interpretation of their weight and significance. For example, I have chosen to highlight the understanding of local conditions – climate especially – as the most essential consideration in architectural design, since I argue that they dictate much of the technical requirements of the projects and shape people’s behaviours. Other local conditions, including cultural aspects and patterns come second in my defined hierarchy.

In the following sections, I will present the categories labelled CONTEXT, CULTURE, KNOWLEDGE AND TECHNOLOGY and SOCIETY, and the related reflections in their respective subsections. The quotes presented at the beginning of subsections are direct extracts from the field trip memos, as indicated in the footnotes by their respective Logbook ID.<sup>301</sup> They are referenced here as indicators of the recurring issues encountered during the design processes of the architectural projects, as reflected in the narrative. Most of the quotes are fragmented and discontinuous, as they were never written with the intention of being a descriptive narrative for any academic research purposes. The original purpose of these logbooks was to act as reminders of the many issues to be kept in mind when returning to the site. In them, however, resides more than is evident in the text itself: the quotes are fragments and entangled elements of a hermeneutic circle, which deepens and widens its sphere and perspective with time. Some of the findings seem mundane and not very exciting nor dramatic, but then again, they tell about similarities as much as about differences. It is a finding in itself to realise that the similarities we share are so many and the differences between us are usually a matter of communication.

The Sections 3.6.1 to 3.6.4 present the core elements of this thesis, through which I seek to explore *the cultural features one needs to acknowledge when working in a cultural context other than one’s own*. The identified categories and their reflections inform the discussion on university pedagogy in architectural and interdisciplinary education that will be addressed in Chapter 6.

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300 Gadamer, 2004:291.

301 WomC-n, TunH-n, APE-n, KWI-n and Nya-n. See Figure 4: Research data description.

### 3.6.1 CONTEXT

#### CLIMATE AND LOCAL CONDITIONS

#### CONCEPT OF PUBLIC SPACE

#### SPATIAL HIERARCHIES

#### DESIGNING FOR SAFETY

Context related factors in architectural design appear first in the identified categories, thus emphasising their importance. Meaningful architectural interpretations are enabled through in-depth study and understanding of the environment and the way of life of the people who the design is meant to serve. Their way of life, however, is defined to a great extent by climate and other local conditions. Climate is the first and foremost single aspect to dictate the primary needs set for built environment: providing shelter is why we build in the first place.

Other context related features include the concept of public space and how local people inhabit, use and occupy the spaces around them, that is, spatial hierarchies. Safety and security in this category refer to the requirements of the built environment in terms of materials, emergency exits and fire safety, but also to the ways in which safety is conceived of in a particular cultural context.

#### 3.6.1.1 Climate and Local Conditions

Understanding local conditions is a fundamental premise of any architectural project. As a projection of our being in the world, the built environment reflects who we are and how we prepare ourselves as individuals and communities to face the temporality of life and its major transitions – both on ontological and practical levels. I have chosen to use the term *Situated Existence* to describe the phenomenon.

#### *Situated Existence*

*Gouye Aldiana – le Paradis de Baobab. Finally: a site donated by the mayor. Getting to know the women groups of the area, adaptation to the new site.*<sup>302</sup>

*There are no notable roads leading to the site, but it is legally registered and measured... One big tree in the middle is in bad condition, needs perhaps to be chopped down... One fruit tree (lemon or lime) on the side can be preserved. Good feeling about the site, wonderful view towards Kilimanjaro.*<sup>303</sup>

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<sup>302</sup> WomC-3.

<sup>303</sup> TunH-1.



The Women's Centre in Gouye Aldiana, Rufisque, Senegal.  
PHOTO JUHA ILONEN

Buildings, cities and settlements constitute the physical built environment we inhabit. They are *located*: Architecture is a situated form of art and existence. Architectural theories may produce fascinating abstractions, but in the physical realm we are bodily and located creatures. Our built environment explicitly reflects our physical existence.

Choosing a suitable site for construction is a pragmatic exercise. If options are available, the criteria considered include appropriate possibilities for proper foundation and water management – including occasional flooding and rainwater management – topography, soil type and vegetation, wind and velocity. In countries with the highest income levels, challenging local conditions, such as soil instability and flooding can be overcome with additional financial investment. In development projects, however, especially in low-resource settings, this is not an option. Understanding local conditions becomes of paramount importance when the designer has to ‘make the most out of the least’. Scarcity of means and materials challenges the professionals to achieve the best possible quality with the least available resources.

### *Adapting to Climatic Conditions*

*The prevailing wind direction is from south east, as for the heavy rains (horizontal at times) also.<sup>304</sup>*

*South walls need insulation (an air gap between tiles) or a thick stone wall.<sup>305</sup>*

*Baltazar tells us that February is the warmest month and July the coldest (sometimes 12 degrees), the long rains are from mid March to mid June and the short ones from mid October to mid December.<sup>306</sup>*

304 TunH-1.

305 APE-1.

306 KWI-3.

The most influential factor to consider in any building project is climate. Climatic conditions, such as prevailing rains, temperatures, wind conditions, yearly cycles and frequencies dictate the level of protection needed, as well as insulation, ventilation and materials used. This information becomes highlighted in low-resource settlements, forming the basis of justified design solutions.

There are physical realities that climatic conditions bring along to the built environment; their direct consequences are social and behavioural. Cultural communication and social interaction are easier and more comfortable in mild and temperate climates, whereas a harsh climate, be it hot or cold, requires us to seek shelter. Construction requires energy, which leaves less spare time for relaxed social interaction.

The human population has spread over the globe and adapted to an extensive range of climatic conditions. The needs for protection vary in different climatic zones but the projects discussed in this research are all located in warm areas, where temperatures do not fall below freezing point. Other climatic aspects, however, have varied considerably. The intention in all the projects analysed for this research has been to adapt to local conditions as well as possible: to secure natural ventilation and appropriate protection from rain and excess sunshine alike, to use local materials and locally adapted, appropriate construction methods.

### *Natural Ventilation*

*Helena presents the vent-blocks for the exterior walls, as a solution to keep the air in the courtyard cool. David disagrees, as he sees it as a problem if the kids start to climb on the wall. A solution is anyway found, as he accepts the idea if a fence of bougainvillea is planted on the inside of the wall.<sup>307</sup>*

*The ventilation should be organised both through the ventilation ducts to the roof and ventilation windows (on top of the doors and next to the fixed windows). All openings need to be closed during sand storms.<sup>308</sup>*

*However, it must be noted that a ceiling must NOT be constructed above the toilet area, to secure air movement.<sup>309</sup>*

Natural ventilation is usually possible to organise, unless filtration of air is a necessity. This might be the case in hot and dry climates, where sandstorms and dust become an issue. A building design can adapt to variations of natural ventilation in accordance with the specific needs of the room programme. Allowing free movement of air in certain areas can indirectly cool other areas of the building. A suitable natural ventilation solution can be identified by studying the features of vernacular architecture that consider the prevailing wind conditions, such as directions, flow velocity and frequencies. For example,

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307 TunH-4.

308 APE-3.

309 Nya-4.



Ventilation wall near the toilet areas in Nyang'oro hostel.  
PHOTO SAIJA HOLLMÉN/HRS

wind catching towers have traditionally been used as a specific cooling method in hot and dry areas and can still serve as a valid way of cooling and achieving air movement in a building, through air pressure variation.

The prevailing wind conditions also affect the designing of sanitation, especially the orientation of the toilets. Whenever possible, the toilets would preferably be placed downwind, securing sufficient airflow in the facilities.

### *Rainwater Management*

*The heavy rain waters and flood waters from the mountain have to be taken into consideration. We will have to design underground ducts to lead the water to the river. The floor level in the buildings has to be about 45 cm above the ground level.<sup>310</sup>*

*Rain water in Cairo is very low, not really an issue in construction. No rainwater collection is needed.<sup>311</sup>*

Annual rainfall dictates whether rainwater collection is an option to consider. In Cairo, Egypt, it only rains for seven days a year, so it is hardly an issue, whereas in rural Tanzania, the rainy season can be abundant. If rainwater is collected, this affects the chosen roofing materials and techniques. Rain can sometimes fall nearly horizontally, which may suggest a need for protecting eaves. The eaves equally create shading from the sun; the double purpose offers a range of possibilities and variation in using the 'basic alphabets' of architectural design.

<sup>310</sup> TunH-4.

<sup>311</sup> APE-1.

## *Flora and Fauna*

*Termite protection has to be thought of for all the buildings.*<sup>312</sup>

*Checking some trees. Not ones harming foundations.*<sup>313</sup>

*Bathroom ceilings will get mouldy very easily.*<sup>314</sup>

Local flora and fauna may have considerable influence on the built environment: in humid climates mould fungi flourish, which again require ventilated structures and proper water management. Local insects and small animals, such as mosquitos, snakes, lizards, rodents and birds are preferably kept away from people. Termites might eat any wood that is part of their diet – if it is not properly treated.

## *Unusual Connections*

*Shoo tells us that the common turquoise blue of windows and doors in Moshi has appeared because between 1977 and 1985 there was a lack of everything. The blue paint was the one nobody wanted, so it stayed in the shop with a consequence that everybody had to paint with the blue. Since that it is done just because it has always been blue!*<sup>315</sup>

Local conditions for construction also include human and culture related connections. When exploring local conditions in Moshi, Tanzania, we wondered why many houses had areas like verandas, porticos, and often toilets painted in light blue. We heard various explanations, such as light blue keeping the mosquitos – or bad spirits – away, but the most credible one we heard came from our local consulting architect and pointed at economy and people's ability to adapt: a scarcity of materials during an economic recession had caused blue to become a "universal colour". The city dwellers came up with alternative explanations as an adaptation strategy to justify the habit that had resulted from the prevailing circumstances.

### **3.6.1.2 Concept of Public Space**

*In centre Moshi, as is typical in African cities with European influence, concrete modernist buildings radiate out from central traffic circle (hotel, bank, post). Also notable are the large coffee cooperative building, central mosque, theaters, bus station, market.*<sup>316</sup>

*Like in all Cairo, pedestrians are not considered in the traffic.*<sup>317</sup>

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312 TunH-3.

313 KWI-10.

314 Ibid..

315 TunH-4.

316 TunH-1.

317 APE-1.



In those African contexts I have encountered, urban and public space is conceived of in a fundamentally different manner from that of European.<sup>318</sup> The rapid growth of cities and lack of ownership combined with inadequate town planning have caused sometimes chaotic and dangerous, albeit vibrant, urban conditions.

African cities have a long history, extending far beyond the era of western colonisation.<sup>319</sup> However, the rapid speed of modern urbanisation has created a multiplicity of challenges, to which the often severely under-resourced public authorities are struggling to respond.<sup>320</sup> Contemporary city planning often lags behind the actual needs, resulting in uncontrolled urban sprawl.

Lack of planning and the rapid growth of cities often result in the dominance of traffic and transportation. Uncontrolled traffic arrangements are not only unpleasant but also dangerous for pedestrians, and traffic accidents are common.<sup>321</sup>

Inadequate urban planning resources are also reflected in the scarcity of parks and publicly maintained open plazas and pedestrian areas. If these are provided, they are few and some may be uncared for. In Senegal, for example, the division between public and private spaces is found to be strikingly clear. The first action in a construction project was to build a wall around the plot. While working with the Women's Centre in Rufisque, we found out that the Senegalese people carefully tend their own areas, which they clearly consider to belong to them – but as soon as they exit to public areas, it becomes 'no-one's land'. The public spaces are not considered to be anyone's property – hence, the mind-set for caring for the public areas is minimal. One exception to this is the Rwandan tradition of '*umugunda*', described below, which engages practically the whole population in a monthly communal event.

### *Rwandan Umuganda*<sup>322</sup>

Dishevelled urban areas are of course not an African feature *per se*. It is not unusual in any city anywhere in the world to find the authorities failing to perform proper waste management, for example. One exception, however, is Rwanda, where the streets of Kigali are kept tidier than I've seen anywhere else. The Rwanda Governance Board describes it:

Umuganda is a practice that takes root from Rwandan culture of self-help and cooperation, in traditional Rwandan culture, members of the community would call upon their family, friends and neighbours to help them complete a difficult task. The activities of the then umuganda included, for instance,

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318 Whelan, 2018.

319 Coquery-Vidrovitch, 2015:xv.

320 Discussions with Dr. Muhammad Juma, Head of the Department of Urban and Rural Planning on Zanzibar, Tanzania.

321 Whelan, 2018.

322 The Umuganda programme was institutionalised by law in 2007. Rwanda Governance Board. "Umuganda", accessed Dec 30, 2019.



Traffic in Kigali, Rwanda.  
PHOTO SAIJA HOLLMÉN

farming for those who were unable to do so due to either physical handicap or old age, building houses for the poor and providing transportation to medical facilities to those who were in need.

The concept of *Umuganda* originates from Kinyarwanda word meaning woods used to construct traditional house, and can be translated as ‘coming together in common purpose to achieve an outcome.’<sup>323</sup>

The Rwandan *Umuganda* helps to keep the environment clean, because the caring of public spaces is made a communal event, in which everyone who is capable participates. Participation is mandatory and monitored – but on the other hand, the practice has made possible many public projects like building elementary schools, maintaining environmental values and help building communities in the fragile post-genocide era, simply by bringing people to work and socialise together.

### *Communal Public Spaces*

Rwanda is exceptional in many ways, but, there too, the concept of public space differs from that of, say, the European. In Finland, we have a network of public libraries open to all, cultural centres, places of worship and office

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<sup>323</sup> Ibid..

buildings open to anyone. The concept of not-privately-owned public space is unfamiliar in those African cities that I have visited. In 2014, the one public library in Kigali, Rwanda, had heavy security control and monitoring – attributes that are not generally connected with public spaces in Northern Europe.

In the African context, we have encountered that the all-open public urban spaces, when they exist, are invaded by merchandise, small businesses, traffic or car parking – sometimes to the extent that the pedestrian areas disappear altogether. The local culture of meeting people and spending time in social interaction suffers. Pedestrians find themselves weaving through crowds of cars, tracks, *daladala* minibuses, in and out of traffic, where only good luck prevents catastrophic accidents from happening.

In modern African cities, the concept of public space meant for other purposes than the above is quite often not clear. Nevertheless, the sense of community is strong – it is just not obviously reflected in the built environment. The role of the authorities remains under-resourced and inefficient, and people's conception of and attitudes towards public spaces remain distant.

In our projects, the participatory processes have aimed at building a sense of community that promotes the generation of a feeling of communal ownership. We have hoped that getting local people committed to a community project can serve to lower the threshold to caring for communal public spaces as well.

### 3.6.1.3 Spatial Hierarchies

*The pattern of Colobane is mostly straight paths and streets that makes square shaped plots. They are all nearly same size 20 x 20 metres. .... There is place for the most important buildings and a big public courtyard that serves as a 'living room' and a smaller more private courtyard with some vegetable cultivations.*<sup>324</sup>

The way people and communities organise their habitat and spaces around them results in specific spatial hierarchies observable in their built environment. Hillier and Hanson discuss the social logics of space and societies as spatial systems by providing examples of different indigenous communities: the Tallensi in Northern Ghana, the Ndembu of the Democratic Republic of the Congo and the Hopi of Oraibi, Arizona, comparing them to Japanese society.<sup>325</sup> According to their observations, the structure and organisation of habitat is strongly influenced by social relations, such as kinship, matrimony, ideology and politics, affecting the growth and organisation of the habitat: "Different solidarities, whether in the form of classes or not, exist in all societies, and the two kinds of logic that the socio-spatial system possesses are the means by which these differences can be related, or come into conflict."<sup>326</sup>

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324 WomC-1.

325 Hillier and Hanson, 1984:242.

326 Ibid.:261.

## *Cultural Origins of Spatial Organisation*

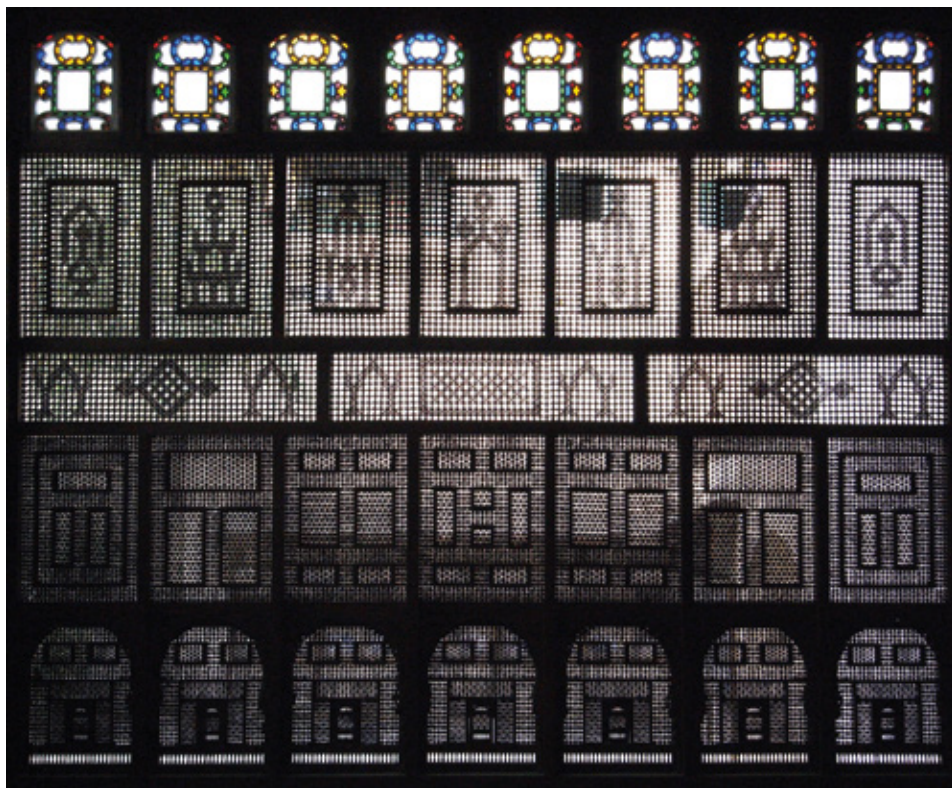
*Rooftops are commonly used for activities, very Egyptian way of using space. cultivation.<sup>327</sup>*

*Interesting comparison between the decorations in the churches of the different religions. The appearance is very similar with small variations in the patterns. We studied especially the different mashrabeyas.<sup>328</sup>*

*It actually is very common here to have pillars on the edge of the verandas. It might make it more of a space.<sup>329</sup>*

Quite often one finds that the ways in which spatial hierarchies have been organised are indeed based on cultural and social habits. In Cairo, the beautiful *mashrabiya*, a semi-transparent wooden wall that prevents a direct line of vision from outside yet allows air movement, reflects the gender-based household order that prevailed in the society for centuries. Even in places of

Mashrabiya, Old Cairo.  
PHOTO SAJJA HOLLMÉN



327 APE-1.

328 APE-3.

329 KWI-4.

worship, in churches and mosques alike, the language of architectural detailing and the use of *mashrabiyyas* follows the indigenous culture more than the religious traditions as such. The appearance is sometimes very similar, with only small variations in the patterns.

The cultural coding of public to private, also marking the entrance of a house, is strikingly visible in the densely built area of Ng'ambo, in the City of Zanzibar. Even on the narrowest of streets, people make their *barazas*<sup>330</sup> in front of their Swahili houses, thus marking their place and personalising the entrance of their house in the most compact built environment.

### *Indigenous Architecture*

*The plan of Masai houses we saw were squared, where as the traditional hut is oval. The other features seem to somehow follow the tradition, such as very small window openings (with glasses!) and the overall layout of the plan. It was interesting to see how little they have adopted from the mainstream culture.*<sup>331</sup>

Architecture has its roots and origins deep in the local indigenous culture.<sup>332</sup> Affected by the physical environment, the climate and resources available, as I have written earlier, “architecture reveals how people experience their world; it tells us of the development of spatial requirements and uses from one generation to another, of the rhythm of life and of the sequence of spaces surrounding daily activities.”<sup>333</sup>

When engaging as an architect in a previously unfamiliar cultural context, it is fascinating and inspiring to learn about the different indigenous ways of people's conception of space: how society is reflected in the microcosms of their habitat and in their ways of social gathering, and what kind of spatial hierarchies are revealed even underneath the recent urban structures.

In our projects, we have studied indigenous architectural concepts and how the tribes would inhabit the spaces they created for themselves. The Wolof house in Senegal and the house of the Chagga tribe in Tanzania have informed and inspired the architectural projects analysed for this thesis. They have constituted the premises and the basic architectural composition of the designs, because we have reflected on their spatial hierarchy and organisation while attempting to create a sense of belonging and rootedness for the local communities.

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330 A baraza is the veranda or meeting place in front of a Swahili house, considered public or semi-public space.

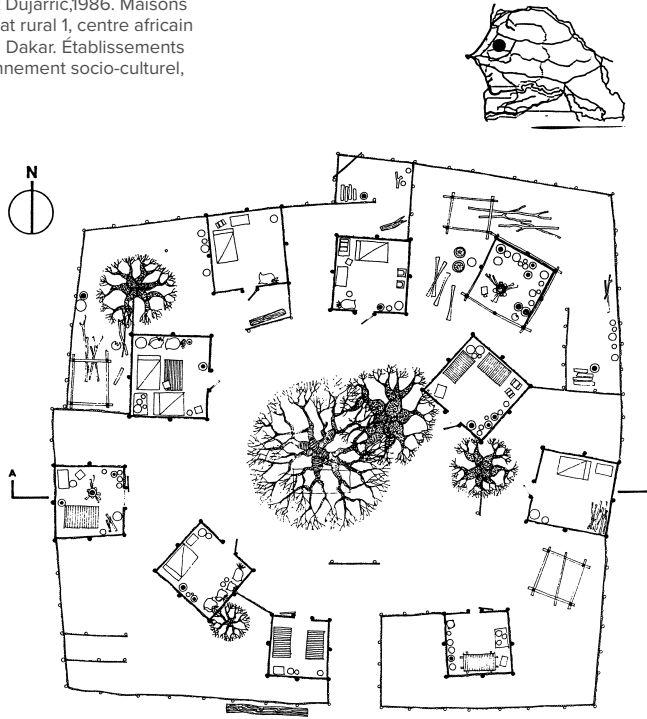
331 TunH-1.

332 Guidoni, 1987; Hillier and Hanson, 1984.

333 Hollmén, 2010.



The Wolof House, Senegal.  
Drawing by Patrick Dujarric, 1986. *Maisons sénégalaises habitat rural 1, centre africain pour l'architecture, Dakar. Établissements humains et environnement socio-culturel, UNESCO. p.75.*

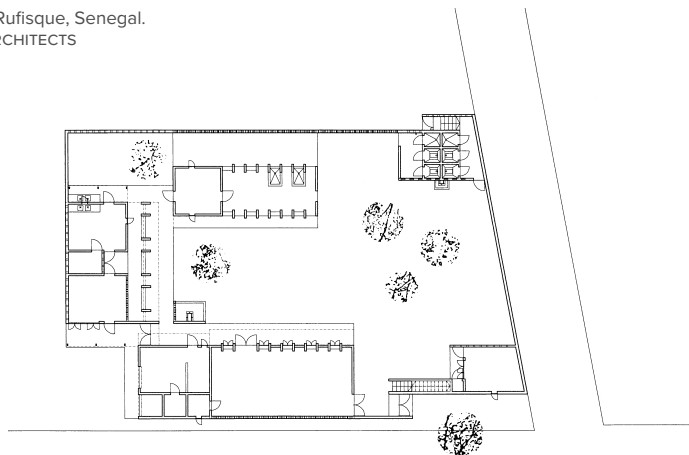


### *The Wolof House*

The traditional Wolof house in the Senegalese countryside has a clear spatial concept and hierarchy: a fence draws the line between the public and the private; the central courtyard is protected from the direct line of vision from the public street by a transverse wall, and the main courtyard is organised around a large tree offering shade. The huts of the husband and wives are placed around the courtyard, and behind the huts are the auxiliary spaces: workshops, kitchen, laundry – and finally the toilets in the furthestmost corner. The same hierarchy – the public to private axis of spaces – we identified in the houses of Gouye Aldiana in Rufisque, Senegal, as we studied the satellite maps of the area in 1999 and also visited many of the houses in the surroundings. Although densely built, it was obvious that the townspeople were applying their indigenous ways of organising their habitat into the urban environment. In our architectural design of the Women's Centre, we did our best to follow this special concept, in order to create a feeling of familiarity that would help the community to engage with the project.<sup>334</sup>

<sup>334</sup> Since its inauguration in 2001, the Red House has been in continuous active use by the women groups of the area. The design was apparently successful in the sense that it allowed the local women to comfortably adapt to the spaces.

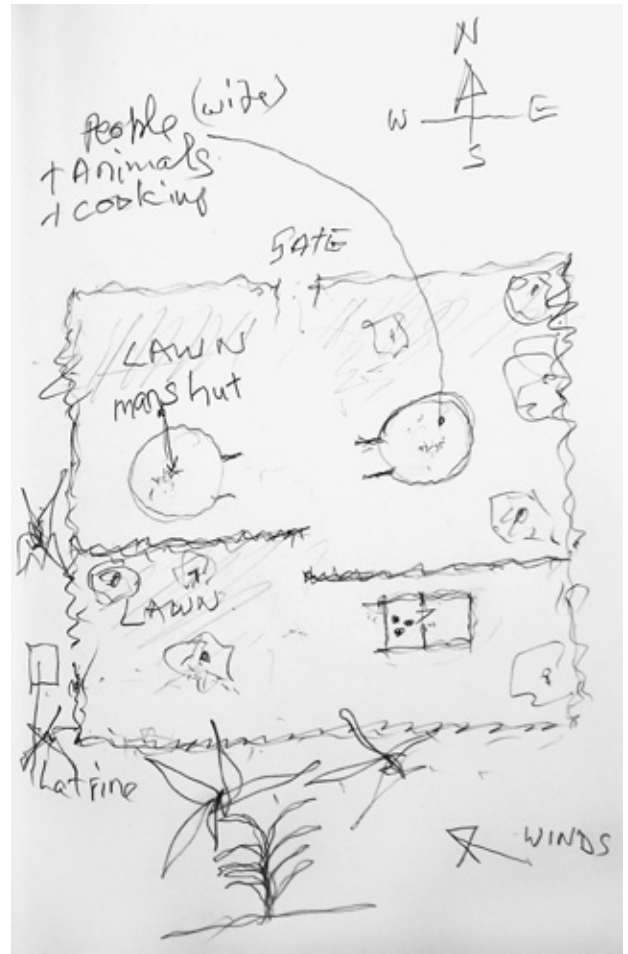
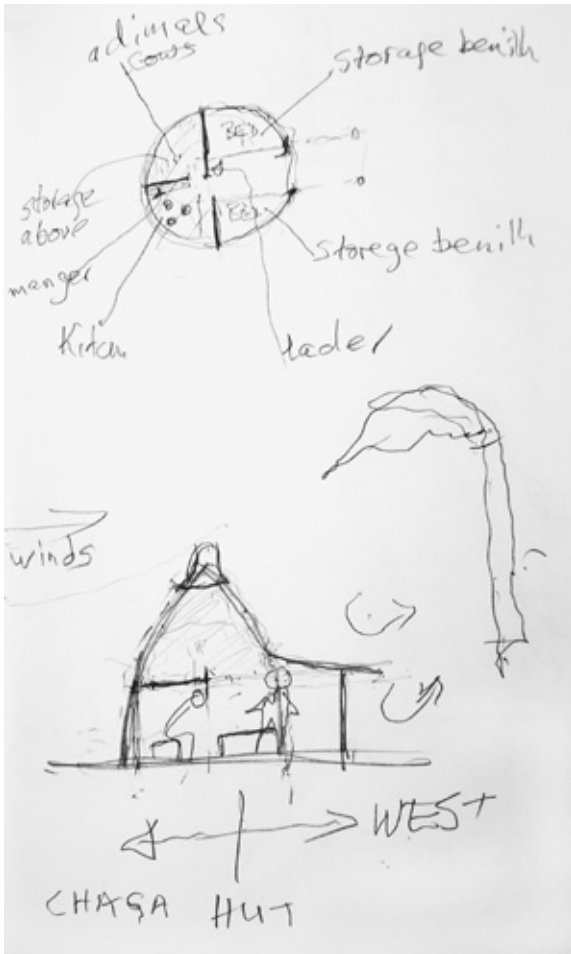
Plan of the Women's Centre in Rufisque, Senegal.  
HOLLMÉN, REUTER, SANDMAN ARCHITECTS



Satellite image of Gouye Aldiana,  
Rufisque, Senegal. Circa 1995.







Drawings by architect Baltazar Karawa.

### *The Chagga House*

*Baltazar drew us the Chagga hut he was born in...*<sup>335</sup>

The indigenous Chagga house is the house of one wife: the husband may have many wives whom he visits in a rotating rhythm. Our consulting architect in Moshi, Tanzania, Mzee Baltazar Karawa, was born in one of these Chagga huts. Since they no longer exist, he made us some hand-drawn pictures to illustrate the hierarchy of the house – which also reflects the Chagga way of life. Of the two main huts in the courtyard, the one upwind is positioned so that the wind gently flows through the leaves and ventilates the hut, because

335 TunH-1.

the woman sleeps with her children on the upper level and the animals on the ground. The bad air goes out from the doorway and faces the man's hut, "but it doesn't matter since he sleeps there alone."

We followed the basic idea of the Chagga house in our TunaHAKI orphanage plan, where the boys and girls had separate houses, with free-flowing areas around them. The common spaces and more private household functions were located further in the courtyard.

The sequential organisation of spaces is also reflected in our KWIECO Shelter, where a series of courtyards separate the private accommodation from the more public areas.

#### 3.6.1.4 Designing for Safety

*It is important that the centre suits into the pattern of Colobane, It mustn't be a monumental public building that make people pay too much attention to it. That would cause envy and make the place unsafe for the women.<sup>336</sup>*

*The window has to contain a mosquito net, grid for the security and a glass. Opening of the window has to be designed so that it doesn't cause danger to the children.<sup>337</sup>*

In vulnerable communities, it is common to encounter unstable conditions that stem from cultural, societal or political causes. When discussing architectural projects, security is most often the priority for these communities. However, the concept of safety is context related: thorough discussion is helpful in achieving a mutual understanding of what the community considers a threat – and if and how it can be mitigated through architectural means.

The selected projects have included those where the safety of the users is strongly pronounced. The TunaHAKI Orphanage was to be a safe home for the street children of Moshi, the KWIECO Shelter was built to protect victims of domestic violence, and the Nyang'oro Hostels to accommodate girls, keeping them safe while performing their studies. In all these projects, it has been important to consider what is special in the Tanzanian culture and how the safety of the built environment is seen in this cultural context.

During the design phase of these projects, discussions with local municipal and city authorities have revealed that the Finnish building code and regulations are actually quite suitable and applicable to other cultural contexts as well. Fire safety, for example, is mostly a matter of designing proper exit routes and using fireproof materials. In some issues, the Finnish regulations we followed are even stricter than, for example, the Tanzanian. The projects have been well received by the supervising authorities due to careful consideration of fire safety and in some cases fruitful discussions have arisen with district authorities when comparing national practices.

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336 WomC-1.

337 TunH-3.

## *Night Watch*

*Night guard for safety, matron present 24h.*<sup>338</sup>

*A separate space close to the entrance for the guard and the gardener with an own bathroom. The guard should not be able to enter the rest of the complex during nighttime. Not even the office.*<sup>339</sup>

*A guard is needed for the house, and he needs a shelter against rain and sun, preferably a covered area (even a small one) clearly outside the hostel, of which he can observe the surroundings even during rain.*<sup>340</sup>

Other design related issues concerning safety include special spaces reserved for guards, who are hired to keep watch during night-time. The guard needs a shelter from rain outside the compound when he is observing the surroundings: he never steps inside while on watch. Indoors, it is the matron who keeps guard.

The compound is secured and closed during night-time. Therefore, indoor toilets with proper lighting becomes a practical security issue because a night-time visit to the lavatory can be secured this way from any outsiders.

## *Buildings for Protection*

*The Shelter should be more protected. 'We don't want to expose the shelter'. Grills on the windows. The outside wall can be 1,5 m high and the grills on top 0,3 m. Anyway the walls should be higher to keep the Shelter House safe.*<sup>341</sup>

*We ask him about fire safety, if he thinks we should have the window grills also openable, or is it enough to have the courtyard and 4 exits. The opening of the grills – if not really well made – might cause a security risk for the girls from outside.*<sup>342</sup>

In accommodation buildings, the windows are often protected by metal bars. Some consider them to provide security, while some are of the opinion that they are reminders of a prison. Cultural interpretations vary.

In the Nyang'oro School Girls' Hostel, we had to redesign our window details so that the glass windows would open outwards, because it appears that sometimes feelings are heated in the girls' dormitories. Fighting among girls is surprisingly common, and inwardly opening glass windows can become a security threat when broken.

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338 KWI-2

339 KWI-3.

340 Nya-2.

341 KWI-3.

342 Nya-2.

Surrounding walls are high and solid, or at least protected with thick vegetation to prevent unwanted visitors from climbing over. The fact that the community does not want these accommodation buildings to stand out in the neighbourhood, also brings with it a design challenge: the architecture has to be both inviting but communicating security at the same time. These buildings cannot stand out too prominently, preferably keeping a low profile to protect their inhabitants, but they still need to be of such architectural quality that they serve to restore the self-esteem of the vulnerable and fragile and re-evoke their pride in their own culture. At its best, architecture speaks about something other than a building alone: it does not need to be grandiose, but instead rooted in the intrinsic cultural values. Of these values, safety is a priority to the communities we have worked with.

### *Political Instability*

*Political demonstrations (influenced by the situation in Tunisia) in town.<sup>343</sup>*

*All mobile nets and the internet are closed in whole Cairo. Jenni and Helena decide to leave straight to the airport to be there before the afternoon prayer.<sup>344</sup>*

*Meeting with Neveen and Onsy in Orascom. Discussions about the revolution and politics; Onsy is very frustrated with it all. No one has an idea when things will get running again.<sup>345</sup>*

Security that is related to societal and political upheavals is another issue altogether. In 2011, the revolution in Egypt has halted the A.P.E. Learning Centre project to date, as the sweeping Arab Spring shook the foundations of Egyptian society. Political demonstrations and insecurity, riots and the internet blocks that follow, underline the externality of outsiders. When a society is drifting in unprecedented directions, there is little a foreign citizen can do.

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343 APE-2.

344 Ibid..

345 APE-4.

## 3.6.2 CULTURE

CULTURAL HABITS AND TABOOS

GENDER AND SOCIAL RELATIONS

RELIGION

LANGUAGE AND TRANSLATIONS

CROSS-CULTURAL COMMUNICATION

ETHICAL BEHAVIOUR

ROOTING A PROJECT

LOCAL ORGANISATIONS

Culture related factors in architectural design appear as the second main category in my research. Tightly connected to the way a community conceives of the world around itself, its inner and outer relations to the surroundings, societies and other communities, culture is a social construct that is partly tacit and unconscious, partly loud and visible.<sup>346</sup>

It is both the underlying, tacit assumptions and the most apparent features of cultural life that affect our design choices. Stemming from our social environment, the way we occupy spaces results equally from our social relations. These relations, beliefs and factors of social life are the building blocks of a meaningful architectural project.

### 3.6.2.1 Cultural Habits and Taboos

*The system of names in Tanzanian culture. Stu's whole name is Stuart Shebuge Nathaniel Nkinda, Nkinda being the clan name. His father and brothers use it, but Stu chose to use Nathaniel, due to his father's profession as a school inspector.<sup>347</sup>*

In addition to the previously discussed gender relations, other local cultural features and habits dictate much of the working environment in low-resource architectural projects. For a foreigner, some issues are impossible to address, thus requiring active collaboration and mediation from local people and professionals. Issues reflected in this chapter, such as the concept of time, hierarchy in relations, greetings and other formalities, menstruation and hygiene, are simply conceived of in a different manner than, for example, in Finland. A *mzungu* often finds herself in a situation where 'asking stupid questions' appears to be the only way forward in building understanding. A straightforward question often invokes discussion and fruitful exchange of knowledge.

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<sup>346</sup> See also Section 2.4.6.

<sup>347</sup> KWI-2.

## Concept of Time

*Alla kom jävlight mycket for sent, om de kom över huvud taget...Maire's 'pappa' hade dött för två dagar sen... (Everyone came terribly late, if they came at all... the Mayor's 'pappa' had died two days ago...)*<sup>348</sup>

*Nobody turns up so Eva takes a taxi to TunaHAKI where she finds out that David is busy all day with MIT students and do not have time to meet her. Eva stayes with the kids. David passes by in the evening to inform Eva that he has changed the schedule proposed by Helena ...*<sup>349</sup>

*Sajja & Hilary went to Vodacom for the sim card, it took 45 min altogether, and Hilary was really annoyed by these people being so slow!*<sup>350</sup>

*We were not sure if he had misunderstood the time or just didn't want to admit he was late.*<sup>351</sup>

From a European perspective, the first thing you notice when interacting with people in Africa is that the concept of time is different. In Northern Europe, punctuality equals politeness, respect and efficiency. In Africa, it is rare to see anyone hurry.<sup>352</sup> We have encountered the feature equally in West and East Africa. Being late is not considered impolite. If a *force majeure* appears (and it appears often), the person does not show up. No messages, no apologies. The concept of time is fundamentally characterised by flexibility. Of course, there are individuals among local people who are equally irritated by this feature.

In professional contexts, involving large groups of people, the habits are slowly changing. However, the bigger the ceremony or a meeting, the more likely it is to start late. Waiting for others to show up is sometimes the most time-consuming business in your whole endeavour. You can either get irritated – or learn patience and tolerance: *pole-pole*.<sup>353</sup>

For a *mzungu* architect, who only stays for a few weeks at a time, this African concept of time works two ways. The flexibility in the concept of time also allows some issues to be pushed over the normal bureaucratic time limits. 'In special circumstances', a building permit application can be accepted for review after the due date, a signature can be granted outside office hours, a site survey can happen over the weekend – if you are personally there to talk with people, to build a professional relation of trust by being friendly, polite and respectful. If things are happening slowly by default, they can suddenly be solved incredibly quickly. As the saying goes: 'Where there's a will, there's a way.' Things depend on personal relations to a great extent, and can speed up your project – or on the other hand, halt it altogether.

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348 WomC-3.

349 TunH-4.

350 KWI-6.

351 Nya-2.

352 Kapuściński, 1998.

353 Pole-pole is a Swahili saying, meaning "slowly, slowly".

## *Hierarchy in Society*

*When seeing how they treated Sinikka Antila (ambassador), I saw clearly how important they feel these official instances are. It's a part of the local culture and politics. No one (except me) did thank the real people involved such as KWIECO personnel.<sup>354</sup>*

*Since the Prime Minister is in town the meeting has been cancelled.<sup>355</sup>*

All over Africa, there seems to prevail a great respect for authorities. In hierarchical societies, the traffic stops, meetings are cancelled, and everyone waits when the 'minister is visiting town'. The higher the person's position, the greater the masses whose schedules are overrun.

In Finnish society, such hierarchy does not exist. Finland became an independent nation over 100 years ago and the old systems of aristocracy crumbled after WWII at the latest, while the developing welfare state was gradually offering equal opportunities for all. Education is free, students and professors are equally called by their first names, titles are not generally used and authorities are approachable. Today, Finnish people grow up with the idea that respect and authority come through experience and personal capacity, rather than through position or title. It also means that every person is equally important, regardless of his or her social status. In reality, this may not always be the case, but the common mentality strongly supports the idea. This atmosphere may, to certain extent, explain the recent results of surveys proclaiming Finland to be the 'happiest nation in the world'<sup>356</sup>. Equal opportunity is a constitutional value; in Finland, it so happens that it is reflected in the very mundane and everyday attitudes of people.

In our work in architectural projects with low-resource communities, this un-hierarchical background and mentality puts us in a unique position. We have a certain capacity to approach people regardless of their social status. This, combined with our professional role, can sometimes open doors more easily than they normally would. It also brings with it a certain responsibility: one is observed more closely, and one sets a certain example. It is important to openly acknowledge that you are not familiar with all the habits and cultural codes, and seek for assistance from trusted locals. Asking for advice is better than making the mistake of being impolite without knowing!

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354 KWI-12.

355 Nya-2.

356 Helliwell et al., 2019.



### *Formalities in Encounters*

*Adult people do not cry in Tanzania. Betty is amazed hearing that both we and our husbands cry openly.*<sup>357</sup>

*They do not open the packages (gifts) during my stay? I wonder why.*<sup>358</sup>

*KWIECO gave Sinikka a present (I think it had a KWIECO cloth in it) and a bag with coffee for the Embassy office... I didn't receive any gifts.*<sup>359</sup>

*Shaking hands with the headmistress, and her second. It takes forever...*<sup>360</sup>

Some interpersonal habits in Tanzania may seem peculiar: a European *mzungu* gets confused when people continue exchanging endless greetings while looking the other way, as if they were not talking to each other at all.<sup>361</sup> Showing emotions is equally dubious: Adults do not cry openly in Tanzania. If gifts are received, they are not opened, nor commented in the presence of the gift giver.

Formalities are important: Openings or initiations, events that mark the end or a beginning of an era are celebrated with speeches, music, dance and food. People of high societal position are invited and if they appear, it is well noted.

As a foreign professional, one is not required to follow any African dress code, but one is supposed to dress respectfully. In professional situations, men do not wear short-legged trousers, not even in hot temperatures: shorts are considered a garment for boys, not for men. Women do not expose their knees. Tourists who are unaware of appropriate clothing are tolerated – but it becomes a whole other issue when you wish to be taken seriously in a professional context. Dress codes are not fixed but worth considering.

### *The Taboo of Menstruation*

*Godfrey points out that an incinerator for the girls to burn their used pads is needed.*<sup>362</sup>

*We were not aware that the government has given guidelines to build a special menstru health toilet rooms for girls. We can make the one toilet that is a bit bigger than the others in to this, by moving the door a bit and adding shelves for menstruation pads.*<sup>363</sup>

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357 KWI-5.

358 KWI-11.

359 KWI-12.

360 Nya-5.

361 This becomes less confusing once you learn that straight eye contact is considered impolite. For Tanzanians, our way of staring in the eye most likely feels rude and uncomfortable.

362 Nya-2.

363 Nya-3.

As mentioned earlier, menstruation is traditionally a taboo in the African context, and a highlighted one in the selected projects. Although it concerns half of the population, it still has a stigma that can cause women to be temporarily excluded from society. Lack of proper sanitary protection may also cause girls to stay away from school. Unhygienic cloths are used for protection. When designing our TunaHAKI orphanage project, we saw hastily washed rags being dried under beds, out of anyone's sight, which makes them mouldy and even more unhygienic. Education in reproductive health and hygiene is still inadequate, and the stigma prevails. The issue of menstruation is rarely discussed – the absence of notations in our logbooks is telling.

In the TunaHAKI project, it was highly useful to have a female environmental engineer in the design team. Eva Kagiri, who is native in Swahili and educated at Jyväskylä University, Finland, was able to exploit her position as a young, female, Swahili-speaking professional in order to have discussions with the orphanage matron that even we – women, too, but *mzungus* – could not have. Sanitation, and menstruation in particular, remains a delicate matter.

In our school hostel project in Nyang'oro, as well as in the ones to come, an incinerator – a low-tech energy saving stove for burning menstrual pads on the outskirts of the plot – is part of the design. I have profoundly admired some male colleagues in our hostel project, who are articulate and clear about the importance of providing practical support for girls in the matter of menstruation, for introducing an engineering solution to a culturally sensitive dilemma. The fact that the issue is acknowledged by male professionals in the building industry, taking it as a plain and simple matter of straightforward practicality, dilutes the shame of menstruation and seriously helps to dispel the stigma. Possibly, in a few generations the taboo might have been dispelled.

### 3.6.2.2 Gender and Social Relations

*Joanita, an orphan from the countryside, was brought to Moshi to work in a family 6 years ago. She was never paid for the work. She was made pregnant by the neighbour's son, and the father beat her very badly. The son disappeared somewhere; the social workers found Juanita in a very bad condition. She was brought to Kwieco, and she is now placed in a good home. Her delivery is due in December. The baby will be put in a children's home, but she will be able to remain in close contact with her child, and have him/her back as soon as she has her life in control.<sup>364</sup>*

Imbalanced gender relations still strongly define the roles, possibilities and opportunities for girls and women in a majority of countries. The position of women is most strikingly repressed in vulnerable communities. This became especially evident during the design of the KWIECO Shelter House project. Acceptance of gender-based violence is still common in the society, and KWIECO's lawyers are constantly working to raise awareness of the issue.

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<sup>364</sup> KWI-2.

## Women's Position

*'Mbok Jom Sereer' womens' group in Colobane established in Jan 1996: immigrate women who work for livelihoods. Tontine.<sup>365</sup> Education, buying & selling vegetables, chicken, light day and night. teinture, perles, couture, moulin à mil ou d'arachide.<sup>366</sup>*

Our projects in Africa have predominantly concerned women and children in underprivileged positions. It is the mission of Ukumbi to provide architectural services for communities in need, and give voice to the voiceless. In our projects, these have mostly been women who have few possibilities in their own societies.

In West Africa, there prevails a strong tradition of women getting together to support each other in all aspects of life. In urban areas, the women get together for daily activities, as they would in their indigenous villages. However, they remain subordinate to their husbands, which is striking considering their collective strength. What is more, it is contradictory, since they are economically responsible for the care and education of their children. Regardless of their responsibilities, they must still ask their husband's permission to leave the house to perform their daily activities, to do their selling of goods and shopping for the daily meal.

## Persisting Patriarchy

*Il y a le mosque pour les hommes. Qu'est-ce que'il y a pour les femmes?<sup>367</sup>*

*She starts to ask if our husbands trust us when we leave home for so long. Difficult to find a good man when you don't have much money. She was surprised when she heard our age and thought we would be a bit under 30 (!). She says women in Tanzania get so worn out when they get children and live a hard life.<sup>368</sup>*

During our first project in Senegal, a common question in the public meetings we attended was: "Why women, why not young boys?" This was in the late 1990s. Nowadays the importance of girls' education and supporting women is widely acknowledged.<sup>369</sup> An old African saying, freely quoted, claims: "To educate a boy is an investment in an individual; to educate a girl is an investment in a nation." However, as recently as 2017, a school committee member in rural Tanzania asked: 'Why build hostels for girls, why not for boys?' The structures and attitudes of patriarchal societies are tenacious. In Tanzania,

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365 Tontine is a financial system commonly practiced in West Africa where classic bank loans are mostly unavailable. Participants of a group meet regularly and contribute a small sum to a common caisse, and each is granted a loan in their turn. See also: Rosenlew, 2002.

366 WomC-1.

367 Ibid..

368 Nya-2.

369 European commission, 2020:9. See also <https://www.worldbank.org/en/topic/girlseducation> and <https://www.unicef.org/education/girls-education>

especially, the situation for girls is harsh: the current government has declared pregnancy a valid justification for expelling a student – a consequence a boy would never suffer. In Tanzania, gender-based violence is a serious issue and a lot of work is still to be done to change the attitudes. Therefore, boys' education deserves to be equally supported, because it is an important means for raising awareness of gender equality.

In a patriarchal society, a woman keeps quiet in the presence of a man; in professional situations, a woman needs a much more solid and proven competence than her male counterpart to be taken seriously. Our work as professionals in male dominant environments has given hope to some female colleagues and professionals who struggle with the prevailing male supremacy in their own society and working environment. With Finland being one of the world's most equal countries, we grew up with the idea of equal opportunity. In reality, a degree of gender imbalance still exists in Finland as well, but the social norms strongly support equality. We, as female architects, grew into the belief that we have no limitations as professionals defined by our gender. From a global point of view, this is a privileged position – but, as such, an empowering example to our female collaborators in less equal societies.

### 3.6.2.3 Religion

In the face of religious customs, one is sometimes confronted with a choice between respect and resistance. Religion is often used as an instrument of control and abuse of power. Even injurious habits may be rooted deeply in cultures and societies, while maintained in the name of religion. Initiation rites or exclusion of girls and women from the community during menstruation can cause a serious threat to their wellbeing, reinforcing gender-based discrimination.<sup>370</sup>

#### *Tolerance towards Religions*

*Due to religious reasons (muslim), M. Mbaye  
would not shake hands with us.<sup>371</sup>*

Coming from a religiously tolerant environment,<sup>372</sup> Senegal was an easy entry point to Africa. In Senegal, religious freedom is protected by law. Despite a large Muslim majority, a general tolerance prevails, with a small Christian minority. Furthermore, the whole population seems to maintain ancient beliefs and customs, like respect for the baobab, earlier considered a holy tree. These beliefs may nowadays be mostly considered to be part of the more general cultural undertone, a flavour in the Senegalese way of life.

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370 UNFPA. "Period Shame, Misinformation Linked to Serious Human Rights Concerns." <https://www.unfpa.org/news/period-shame-misinformation-linked-serious-human-rights-concerns>., accessed Jan 9, 2020.

371 WomC-7.

372 Finland is predominantly Protestant Christian (70%), with a growing number of irreligious. See: <https://www.infofinland.fi/en/information-about-finland/basic-information-about-finland/cultures-and-religions-in-finland>

The West African religious leaders, called Marabouts, hold a powerful position in the society. During our project, we visited a marabou and, frankly, it seemed more like a mixture of traditional beliefs and witchcraft than Islamic practice. Supernatural and spiritual powers are taken seriously, at the very least 'just in case'. Marabouts are believed to have powers that can be either harmful or beneficial, depending on whose side they are on. In an era after the completion of the Women's Centre, we heard that the leader of the women's council was stealing money from the Centre. However, no one dared to confront her at the time despite her misconduct because she was perceived to be a witch with mysterious powers.

During the construction of the Women's Centre, we had to learn how to adapt our own behaviour as well. Our contractor was a severe and serious Muslim, who would not shake our hands due to the religious ban on physical female interaction. Taking 'orders' or advice from a female also proved to be difficult. This may be just as much about traditional gender relations than religion, but it became a real problem at times. Remaining polite and respectful, yet decisive, was our chosen strategy, in order to manage the practicalities of construction.

### *Injurious Habits*

*Albino. People have tried to catch her repeatedly to take her limbs and sell them to witch doctors.<sup>373</sup>*

In underprivileged communities, it may happen that religion, religious leaders, customs and rituals step into the role of general education. In extreme situations, girls' education is prohibited due to the oppressive religious code. When religious customs overrule common sense, health and human rights, it also overrules education. The phenomenon is most often rooted in patriarchal societies; at its worst, it is used to maintain the status quo. If every attempted change is considered a threat to the prevailing male dominance, it is merely a question of a power game, maintained in the name of religion.

As a foreign professional in the field of the built environment, there is little you can do to influence. What you can do, however, is support the brave and the outspoken, who do their best to change injurious religious habits in their own communities. Suzie Greiss, the leader of A.P.E. in Cairo and a former member of the parliament of Egypt, was vocal about criminalising female genital mutilation (FGM). FGM was banned in Egypt in 2008 and criminalised in 2016,<sup>374</sup> but it is still widely practised. Some believe it to be a religious custom, although its origins are actually in pre-Islamic north-eastern Africa. It is sometimes argued to be part of Egyptian culture, sometimes part of Islam, and thus protected by some religious leaders.

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<sup>373</sup> Ibid..

<sup>374</sup> Adel, 2018.

### 3.6.2.4 Language and Translations

Language as a vehicle of communication bears cultural connotations that sometimes translate poorly. Multiplicity of languages in a single country has given rise to a variety of means to overcome linguistic misinterpretations. National political stability may be strengthened, but on the other hand, indigenous tribal cultures become endangered.<sup>375</sup>

#### *Disappearing Indigenous Languages*

*G. was telling about his family, his wife is a lawyer (?), working for the government (from another tribe as his own (chagga)). He has two kids, a five-year old girl and a two-year old boy... They are 10 siblings in his own family from the Kilimanjaro area.<sup>376</sup>*

In the African continent, the official languages still follow the long roots of the colonial era. In the contexts of our projects, the national languages have been English or French, which also hold the position as the language of general education.<sup>377</sup> The indigenous languages, such as Wolof and Serer in Senegal, are commonly spoken but rarely used in teaching in local schools. An exception to this is Swahili, which is the ‘lingua franca’ of Eastern Africa, and used in primary education in Tanzania.

After independence, the Tanzanian President Julius Nyerere’s policy for racial and religious tolerance<sup>378</sup> was effective in reducing tribal tensions in the nation and securing peaceful societal development, despite the 130 different languages spoken in the country. In discussions with our Tanzanian colleagues, we have understood that intertribal marriage is common today – which also causes the indigenous languages to decline, while lessening the social importance of tribal origins.

#### *Translations by Chance*

*The group has been talking Swahili continuously during the whole trip... when being here alone, this happens a lot.<sup>379</sup>*

*Godfrey interprets, and obviously talks more than we have said. However, it seems to be good, since he has already grasped the main ideas, and is able to communicate the design aspects to the audience with enthusiasm, with a language that they understand.<sup>380</sup>*

*Impossible to know how your words are translated to community.<sup>381</sup>*

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375 United Nations. “Culture.”, accessed Jan 9, 2020.

376 Nya-2.

377 In Egypt, the two dominant languages are English and Egyptian Arabic.

378 Maoulidi, 2010.

379 TunH-4.

380 Nya-2.

381 Nya-2.

*Misunderstanding when Godfrey had mentioned there will be flush toilets and Maria thinking about western flushing toilets and Godfrey meaning the “holes in the ground” – Turkish type squatting toilets.*<sup>382</sup>

The professional context of our projects has been either English or French speaking. For the discussions with non-French/English speaking community members, women and children, we have had translators, usually team members who are already aware of the contents of the project. This has been partly helpful, but on the other hand, the strong preunderstanding causes a problem: the translator easily starts to have a discussion on the side, without including the architects with the questions at issue, and answering on behalf of the person addressed. The translation becomes loaded with presumption; it is no longer the exact answer of the community member, but rather the interpretation of the translator, who anticipates what the person was intending to say. We have encountered this many times, and it is always difficult to avoid. Using professional translators feels impolite when you work with local people who are fluent in the two languages – but then again, one is left with the problem of receiving less accurate responses from the community members themselves. We have developed a few techniques to get around this problem, such as using drawings or written questionnaires, and these have proven to be useful.

It is helpful to know at least a few words of the local language because it helps to break the ice and start a conversation, and the inevitable mistakes you make serve the same purpose. People appreciate your effort and the good laugh you are providing. Humour can build bridges across any language barriers and create a positive and trusting atmosphere.

### **3.6.2.5 Cross-Cultural Communication**

The cultural frames of reference that we all have are mostly tacit and unconscious, yet they profoundly colour the expectations we have of others.<sup>383</sup> In cultural contexts other than our own, they may cause severe misunderstandings in communication, unless they are openly examined and confronted.

#### *Local – Foreign Relations and Expectations*

*Meeting with University engineer Ciss. He does not want to be paid... (Later: no work done).*<sup>384</sup>

*Mme Yousriya is a strong personality and still at 74 has a strong role in Orascom; when she says O. [Orascom] will be part of the APE learning center, it will...Neveen sees meaning in what Ukumbi, Madame Yousriya and APE are trying to do.*<sup>385</sup>

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382 Nya-2.

383 Mezirow, 1996:162.

384 WomC-4.

385 APE-1.





Noubarin kylä  
130396

-vilja - aitta

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*At the coffee Shop, having lunch/coffee with Baltazar. Stuart joins us, later Veronica. How wonderful to see her again! After all, she was the one to connect us to Kwieco, and she is just as warm and wise as always.<sup>386</sup>*

Our African projects have all been *pro bono publico*, meaning that we have not aimed at financial profit, nor have we been paid any salary. We have funded our own work with small grants from various Finnish foundations, which have allowed us to travel and work on the projects. Our daily bread comes from other work, which in our case has mostly been located in Finland. For some of our local partners in Africa it has been an incomprehensible idea that this work is not ‘making us rich’. In low income countries, the educated are normally working for the wealthy, which is a common attribute connected to Europeans in Africa as well. Through the concept of international development work, our NGO work becomes more understandable, especially since Finland has been involved in development co-operation since the end of the colonial era. In Tanzania, for example, we have met many local NGO members, especially among the elderly, who have personally worked with Finnish people in previous development projects. These collaborations have resulted in friendships and warm memories, thus paving the way for our collaborative projects as well.

In our projects, we have aimed at involving local professionals and supporting local economies, and, in most cases, we have usually been the only western professionals involved. We have also emphasised fair and equal pay for everyone involved. In Senegal, we first collaborated with a university professor as our structural engineer, who had volunteered to work without payment, but then never carried out any of the work he had promised. Only after we hired a local structural engineer working with a normal consultant contract, could the project continue. This was a lesson learnt: without clear contracts and agreements on responsibilities, one cannot be sure of the commitment of the other. Written contracts and clear roles and responsibilities of every stakeholder bring clarity, and help to build trust among the project team. Even with limited project funding, it is important that anyone who works for the project is paid accordingly. Voluntary work is not sustainable in the long run, mainly for two reasons: 1) without financial motivation the work risks being neglected, and 2) it is neither supportive of the local economy as a whole, nor of the individual’s livelihood.

Openness about funding is also helpful in terms of collaboration with the local partner. In the KWIECO<sup>387</sup> Shelter House project, which was funded by the Finnish government, the budget was shared, monitored and reported to the Ministry for Foreign Affairs by KWIECO and Ukumbi together. This led to more comprehensive trust and lessened false expectations of local partners and their collaborators equally. We were truly working together on the Shelter project, which is precisely the purpose of the Ministry’s funding instrument.

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<sup>386</sup> KWI-2.

<sup>387</sup> The Kilimanjaro Women Information Exchange and Community Organization (KWIECO), Moshi, Tanzania.

Once this relationship and trust is in place, the project has a positive prospect. With the local NGO as the client, the project is less likely to be identified as foreign, or a ‘*mzungu*’ project. This makes a difference also because local prices for foreigners are always higher than for locals. It is helpful to keep a low profile at the quotation stages of the project.

### *Enduring Memory of Colonial Era*

It is not uncommon for people in general to have difficulties in recognising individuals of different cultures (e.g., colour and/or race).<sup>388</sup> We were often called ‘Les Helenas’ in Rufisque, as the trio of white female architects who were working on the women’s centre project. We were identified as an entity, and ‘les Helenas’ was any of us and all of us. My interpretation is that it was connected to the larger phenomenon of European influence still present in the local society as a heritage of the colonial era. ‘Les Helenas’ were part of the West, of that ‘other’, which was either romanticised or envied as something ‘better’. We were certainly not ‘local’, and despite our appreciated collaborative intentions, our presence in the community was profoundly marked by that ‘otherness’. Our individual characteristics were somewhat irrelevant to the locals – until, of course, one becomes friends with someone, which alters the perception of the other person from an outsider to something particular.

My later experiences in the Sahelian Africa taught me that some of the locals were just as eager in their attempts to transform me into an African than the European colonial ethos had been to transform or steer the locals away from their indigenous habits and behaviours. The gentle ‘pressure’ from my hosts made me realise that my skin would never turn from white to black, regardless of years spent in that region. I became aware of the fact that my inherited and internalised identity simply was that of a North-European – and that this would not change, just as the indigenous ways of the Sahelians did not. For me, this marked the beginning of genuine appreciation of both my own origin and heritage, and that of others. My understandings of ‘cultural locality’ and ‘belonging’ were clarified by these experiences, because I realised that by appreciating one’s own integrity and identity, one is able to truly appreciate that of others as well.

### *Professional Communication*

*David calls Eva and tells her that he has had a meeting with Komba and that they have decided that the roof on the dormitories will be changed to a normal two way pitched roof.*<sup>389</sup>

*Helena is trying to stay polite and explains that in Finland the collaboration between the architect and the engineer is very intense and that usually the engineer provides information concerning the structure.*<sup>390</sup>

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<sup>388</sup> Lucas, Chiao and Paller, 2011.

<sup>389</sup> TunH-4.

<sup>390</sup> Ibid..

In indigenous communities, building human habitat is a living tradition, defined and regulated by local materials and repetition of ancient ways of working. The design dwells in the deeply assimilated cultural coding and it is not connected to the idea of authorship. Variation may occur, but the fundamental premise is still rooted in the tradition. Human habitat primarily reflects the way of living of the community, their ways of organising their society and the resources available to realise this socially constructed order.<sup>391</sup>

In contemporary low-resource communities, the added value of architectural design becomes perceptible in how it can reflect the traditional cultural values. This is the challenge for an architect educated with the burden of authorship and recognition as a driver for quality and professional reputation. The low-resource community may not see the value of the 'invisible': if the architecture is successful in its cultural interpretations it is not necessarily even noticed. The best designs simply seem self-evident. It is a feature worth considering when working with low-resource communities: the work of an architect in such contexts is not about authorship, but rather about identifying and serving the needs of the community, facilitating change and enabling the local people. A low-resource community is not a place to express egocentric professional self-assertion.

### *Communicating Architectural Aims*

*Helena asks M. if he has had the time to fill in the missing parts of the specifications for construction, as he was asked to do prior to trip. He answers that it is not his job and that a paper like that is not needed, that everybody knows how to make a simple building and that everything that needs to explain can be seen in the drawing. Shoo denies and says that usually there is this paper to collect all the information so that everything is explained in detail.<sup>392</sup>*

*She really has her ways to put you down. She started by saying that she wonders if we ever made a project that was constructed, as we do not know anything of the procedures.<sup>393</sup>*

*The electrical plan is now in Arabic and should be translated into English to the architects.<sup>394</sup>*

How have we then communicated our architectural aims if the community puts no value on design? Indeed, it has taken many stakeholders to engage in communication and to break down barriers and prejudices – others' and ours alike. In the male dominant Muslim culture, for example, it was admittedly challenging to work as a white, young female architect when the cultural code simply prohibits taking advice from a female. Gender-based roles are persistent: very

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391 Davidson and Memmott, 2008.

392 TunH-4.

393 KWI-9.

394 APE-3.

few local female professionals work in the construction industry to date.

In cultures where authority in society is respected, the Nordic collaborative model of teamwork in construction projects has often been a novelty. Creating a team of professionals is as equal a challenge as engaging the community of end users. Information easily gets stranded or partially distributed and, in some phases of construction, the feedback may not reach the architect. We too have been bypassed in communication many times: the construction site using different drawings from ours by order of the engineer, the electrical plans available only in Arabic, notable details left out without consultation, load bearing structures changed without notice, and so on. On those occasions, it takes personal commitment and polite intervention in discussion to redirect the flow of information and communication so that it reaches all stakeholders. Personal engagement and direct person-to-person communication is vital to overcome differences in ways of working.

### 3.6.2.6 Ethical Behaviour

Low-resource communities are especially vulnerable to cultural exploitation by inconsiderate visitors. It is sometimes extremely difficult to recognise the boundaries of respectful behaviour. Trusted locals are of paramount importance as informants and mediators, if one's own knowledge of cultural coding is limited.

#### *Risk of Cultural Exploitation*

*Visit to Masai village, near the road to Kilimanjaro Airport. Some of the people were curious, some irritated by our visit. They kept asking for money, but eventually allowed us to visit one of their homes... A strong feeling of cultural exploitation.*<sup>395</sup>

The Maasai people of Kenya and Northern Tanzania are shepherds who herd their cattle on the semi-open landscape. Their indigenous dwellings and appearance have maintained their characteristic originality which so many tourists find intriguing. Indeed, the Maasai people do still pursue their indigenous ways of living to a great extent. However, they are marginalised people and their way of living is threatened by illegal land-grabbing and increasing eco-tourism. They remain vulnerable to drought and to displacement from their traditional rangelands.<sup>396</sup>

During the design phase of the TunaHAKI orphanage project, we once visited a tiny Maasai village. We were a minibus-full of *mzungus*, all more or less trying not to look too curious. After all, this was not an open market or any other public place; this was their home and village. We were visitors, or intruders if one wishes – albeit accompanied by local people.

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<sup>395</sup> TunH-1.

<sup>396</sup> "Maasai Association." [www.maasai-association.org](http://www.maasai-association.org), accessed December 3, 2019.



Maasai village near Kilimanjaro, Tanzania.  
PHOTO SAIJA HOLLMÉN

Some of the Maasai present at the time seemed irritated by our presence; some were curious and came to ask for money, but most maintained a distance. After negotiation (and some money exchange), they allowed us to visit one of their homes. Architecturally, it was of course worth all the annoyance. It was inspiring to see how they had maintained their indigenous techniques and spatial organisation, only adopting a few modern amendments, such as glass inserted in the narrow vertical window openings in the mud walls of their habitat. Our behaviour was as respectful as possible and we tried to explain our good cause, that is, that we were there to learn from their architecture, to better understand the local culture. However, there was an uncomfortable feeling of cultural exploitation – their irritation was understandable and justified.

Tanzania is a country of 130 indigenous tribes. In urban areas, people's appearance rarely communicate tribal indications (other than those of the Maasai), or at least they are not apparent to a *mzungu*. One rarely encounters such feelings of embarrassment of being an intruder as we did on our visit to the Maasai village. Similar cultural tourism can be found in the Bandiagara Escarpment in Mali, the home of the Dogon people. Although they are hospitable, their indigenous way of life is so different from the mainstream urban life that with every outsider encounter it is bound to be increasingly threatened and less likely to survive.



## *Respect in Demeanour*

*We emphasize that we value their feedback, that we do not pretend to know their culture better than they do.*<sup>397</sup>

The code of conduct may be tuned differently in various cultural contexts, but one rule does exist. Respect is a paramount imperative. It is a vehicle to build trust and a framework for fruitful collaboration. In architectural design, while one makes interpretations of the local culture, it is useful to have sensitive ears for listening to feedback, which is sometimes tacit, sometimes explicit. Assuming to 'know better' which meaningful features of local culture are relevant to the project rarely evokes positive feedback. Respectful behaviour in general, taking into account the local customary ways of communication, is the first element in engaging the local people in a development endeavour. Disrespect interweaves with emphasised authority, arrogance and self-assertion, which are all features guaranteed to terminate hope for an engaging community project.

### **3.6.2.7 Rooting a Project**

*First workshop task was to "locate" the site on the city. We used the big map we got from the municipality and printed at the Kili surveyors, showing a big area around the site. All Kwieco people looked at the map and discussed in Swahili about what can be found in the area. Markings made on the map. Everyone seemed interested and participated.*<sup>398</sup>

A fundamental prerequisite for a successful community project is to create a feeling of mental ownership among the community members. A project is more likely to become rooted in the shared memory and sense of collectiveness if the community is engaged in the making of it. As discussed previously,<sup>399</sup> an architectural project in a low-resource or vulnerable setting is more likely to become sustainable if it has engaged a relatively large number of people who can identify a 'membership' or a feeling of 'belonging' to the sphere of influence of the project.

In the following, I discuss a variety of ways to engage and empower a community to participate in the design and construction process in order to promote meaningful and sensitive development.

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397 Nya-2.

398 KWI-2.

399 See: Section 2.4.2.



### *The Initiative*

*Le centre restera dans la propriété du group y servira toutes les femmes du groupement... Sans un centre nous ne pouvons pas continuer notre activités avec progres. Nous demandons d'aide.*<sup>400</sup>

*Le groupe se réunion dans le court de Soxna Faye qui est trop petite pour tous le membres.*<sup>401</sup>

*The centre could help in: increasing green areas, alphabetization of women, public toilets, cultural centre, artisanal centre + meetings & exchange small market, local handicrafts, for making and selling.*<sup>402</sup>

A great challenge in working with low-resource and indigenous communities is to secure the engagement of the local people. Obviously, a meaningful project requires a solid ground and a *raison d'être*, that is to say, a clear need and a reason why any such thing is proposed in the first place. The initiative and the need have to arise from the community itself and the process of developing the project further has to be fundamentally connected to the community's opinions, discussions, aspirations, wishes and insights. The many ways of finding out this information and generating engagement are context related and are therefore preferably chosen in collaboration with local stakeholders.

Womens' group in Rufisque, Senegal.  
PHOTO SAIJA HOLLMÉN



400 WomC-1.

401 WomC-1.

402 Wom-3.

### *Asking the Right Questions*

*TunaHAKI Centre, workshop with the children. We started by giving each a piece of paper to write their names on. We photographed the kids with their name tags, to give us some homework. ... children to draw the things they like on a home.*<sup>403</sup>

*Colour trials: pink is not good, strongly connected to a phone company.*<sup>404</sup>

*Workshop with the girls – finding appropriate questions to ask. Naomi says it might not be that good to ask the girls what are things that make them feel at home, as things at home can be very harsh, a heavy workload, poverty, domestic violence and even abuse. I am trying to find another way to ask the same thing, but have not found out how yet... what makes them happy, what makes them feel safe, where can they relax, what do they need to be able to concentrate on their studies...*<sup>405</sup>

Asking questions requires insight because one can easily manipulate discussions and prompt answers that the others think are appropriate, rather than really saying what the essence of the matter is. It can also happen with interpretations from one language to another and with interpreters speaking for the informants. Therefore, exploiting multiple techniques is profitable. A workshop with community members may raise relevant discussion points, although, in large groups, the extroverts – often male – tend to dominate. In patriarchal societies, women do not speak openly in the presence of men. However, the silent members hold equally important information and issues for discussion. When the issue concerns women or girls, creating chances to give feedback and suggestions in small groups, through writing and drawing, without pressure and with enough time to reflect, is likely to foster more accurate and diversified answers from the informants than it would in the presence of males or outsiders.

Making assumptions, rather than finding out the true opinions of the community, may result in adverse outcomes. A particular colour, for example, may be an emblem of something undesirable in the culture and such fundamentals may easily go unnoticed by the designer if careful attention is not paid. Opinions are multiple and sometimes contradictory, certainly, but through thoughtful listening the most obvious mistakes can be avoided. Considering and doubly evaluating all feedback is another way of avoiding ethnocentric denial.

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403 TunH-1.

404 KWI-5.

405 Nya-1.

### *Participation and Engagement in Project Realisation*

*Workshop with the APE children. Drawings done for the 4 mosaic walls in the coming Learning Centre.<sup>406</sup>*

*Glass bricks out of recycled material are made by the Zabbaleen. These we can have in any form or colour. Onsy likes the idea very much.<sup>407</sup>*

*Meeting with the girls: representatives from all grades, approx. 25 altogether. Ester is there to interpret and help explaining. First we ask them to pick a color sample according to their liking (we cut pantone samples in half) and write their name behind it. Everyone introduced: girls say their name and why they picked that colour. Many yellows represent “the minerals of our country”, blues “the rivers and lakes of Tanzania”, many browns “our people”. Luckily, many simply like the colour they picked.<sup>408</sup>*

*The community has brought more stones and some burned bricks since January.<sup>409</sup>*

Creating possibilities for participation in the design and building process is a way to create ownership, engagement and pride. Locally produced materials, such as bricks, furniture and handicraft products, textiles and recycled

Workshop with A.P.E. children, Cairo, Egypt.  
PHOTO HELENA SANDMAN



406 APE-4.

407 Ibid..

408 Nya-2.

409 Nya-3.

materials that the community has been engaged in the production, give the community members a chance to put their own fingerprints in the building. In Cairo, for example, we designed mosaics based on children's drawings to be included in the washing areas. In Tanzania we asked the girls to choose their favourite colours and used them on dormitory doors and windows to identify their own rooms. Recycled materials from locally collected trash has been included in the designs, such as car rims as ventilation openings and old bottles as 'glass bricks' in walls. Local community members have been trained to produce interlocking stabilised soil bricks (ISSB) to be used in construction and the communities have also provided stones and burnt bricks for walls and foundations.

### *The Situated Narrative*

*The whole group walks to the site. We get to show how the building is located in relation to the trees. The director 'lights up' when Saija comes up with a narrative about the baobab: It is the Spirit of the Place, and the Keeper of the House. He 'buys' the idea and looks happy. After that we don't need to justify the placing of the building any longer.<sup>410</sup>*

Narratives and stories around and about the design are also ways of connecting and rooting the building in its place and regenerating local identities. These situated narratives serve as vehicles for the community members to identify connection points to their longstanding embodied cognitions of the place. They also help to internalise how the building project will alter or contribute to that place and its dynamics once finished.

In Nyang'oro, on the site of the school, there is an *adansonia*, a great baobab tree, that has dwelt there for centuries. The majestic tree has a powerful presence and we wanted to place the girls' hostel in connection to it. The design – regarding the proximity of the baobab, the prevailing wind conditions and directions, the existing school buildings, the paths and walkways, the views and the topographical context – creates a dynamic relation between the baobab and the hostel building, giving it a sense of place and belonging.

The baobab itself has also been given a deeper meaning as we named it the 'Guardian of the Girls'<sup>411</sup> and the 'Spirit of the Place'<sup>412</sup>. The school headmaster first had concerns about the placement of the girls' hostel in the site plan, but after we presented him these interpretations, he seemingly felt inspired and agreed to the design.

What was obvious to the architects came as a revelation to our collaborators. As the hostel construction was underway and the skeleton of the building was forming, the young engineer supervising the work came to the architect, pointed at the tree enthusiastically and exclaimed: "Look, now the Baobab shines!"

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<sup>410</sup> Nya-2.

<sup>411</sup> The guard who keeps watch during the night has his shed in the shadow of the baobab.

<sup>412</sup> A baobab is traditionally seen a tree with magical powers.





The great baobab in Nyang'oro by the hostel construction.  
PHOTO SAIJA HOLLMÉN

### *Cycle of Ownership*

*I ask Mme Samira why she works with the Zabbaleen, she replies: "I love these people, and I trust them. I know all of them since 20 years, they also know me and my family. I sometimes feel more at home in Mokattam than in my own home. They are my big family."<sup>413</sup>*

To create the necessary connections and to facilitate the growth of local ownership, a dedicated local partner is needed, who is willing to take responsibility for the project and secure the continuity of the activities for which the building is intended for, and for such activities to become established and sustained for the benefit of the community. These projects take years to fundraise, design and build, and the community engagement has to grow alongside the process. I call it the *Cycle of Ownership*, which starts with the local initiative and is sustained in the collaborative process, ending with the handing over of the project to the local partner to be maintained.

Local NGOs are usually founded by active members of communities. They know the people living in the area and their activities are well grounded in the local socio-cultural context. Their knowledge of the needs of the community is superior since they are inherently part of it. It was very rewarding and meaningful to work with A.P.E. as well as KWIECO, because their organisations are so profoundly rooted in the local community that they know exactly what

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413 APE-4.

is going on. The KWIECO organisation is a social counterforce against the patriarchal supremacy, in favour of constitutional equal rights. It stands for the most vulnerable by defending the silent in court and protecting the victims of gender based violence. In order to do so, they have to maintain being well informed about the local situation.

The commitment of the local partner is the absolute key to the sustainability of the project, since they are the ones who remain once the project is completed and the *mzungu* architect leaves.

### *Fatal Arrogance*

The ultimate pitfall and threat to any community project, however, is found closest to the architect. Earlier I referred to the attitude of the designer and how the architect who works with low-resource communities needs to be prepared to give away some of the idea of authorship, and that the low-resource community is not a place to express egocentric professional arrogance, unwittingly or otherwise. Arrogance is a fatal mistake that kills any collaborative project. Arrogance is authority underlined, the opposite of engagement and participation. If it takes over, the process will not be inclusive.

Many good intentions have failed due to the apparent arrogance of the architect. We have seen instances where good, willing Europeans arrive, appearing to seek compensation for their guilty colonial conscience, assuming they know better, aiming to give rather than receive, to teach rather than to learn. However, a designer's ego presenting itself in this manner, boosted by western individualism, poorly matches the ideas and requirements of collaborative projects with low-resource communities.

### **3.6.2.8 Local Organisations**

To secure long-term sustainability, maintenance and community engagement, a development project needs to have a clear organisational structure and management, which extend to more than a few people, and preferably have a legal status of some kind.

### *Structuring an Organisation*

*Sociologue qui a habité au Sénégal va venir en novembre. Est-ce que vous pouvez faire une liste de activités que vous avez projeté d'avoir et une esquisse sur l'organisation.*<sup>414</sup>

Our African projects have emerged in various ways. The first one was originally initiated as a student project whereas the later collaborations have evolved from either fortuitous encounters or a direct approach, which have led to discussions and development of mutual interests. As in life generally, there is always a bit of serendipity involved.

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414 WomC-5.

Our first project in Senegal was a meandering process, which originally involved many women groups in the area. The women are often immigrants from the countryside who get together to support each other both socially and economically. They share a strong feeling of solidarity, which for many is the only social security they have. They arrange many of their daily activities around the groups, as in indigenous communities, and the need for a building to support their activities was clear all along. However, the organisational structure of the women groups needed refinement; despite the level of determination the women demonstrate in their joint activities, their associations are rarely officially registered.

We spent a lot of time in meetings with various groups, not only with women, but with mixed groups as well. In these discussions we got to answer questions such as ‘Why women and girls? Why not boys and young men?’<sup>415</sup> The wide range of participants resulted in contradictory, sometimes even opposing requests, and we had to adjust our responses carefully: ‘Boys and young men are equally important, but let us start with this women’s centre first.’ On the other hand, these lengthy discussions raised awareness of the project, which contributed to the general feeling of ownership within the community.

We got valuable and useful feedback during the design phase from those women groups we were most engaged with. The cycle of ownership grew incrementally, and included a wide range of women groups, not just one. In the final stage of handing over the Women’s Centre to the locals, collaboration with our sociologist, Anne Rosenlew, was instrumental in helping the women to create an official association, identify leadership and to structure the governance of the centre. This reduced the risk that the centre would be taken over by the city authorities, in case of no clear ownership.

### *Scalability Challenge*

The process taught us about the importance of a strong local organisation as a stakeholder and a client in a building project that aims at improving the living conditions of a community. In Moshi, Tanzania, the TunaHAKI orphanage also had organisational problems, which finally prevented the fruition of the project altogether. The organisation was dependent on two people only, and eventually the issue of scalability became too much of a challenge. The inability to share responsibilities and delegate duties, lack of management skills, unfounded doubt and suspicion finally resulted in a rift between the orphanage and the foundation that was supporting it. At this point, there was little we could do but sit by and watch the project disintegrate.

Structuring a meaningful community project requires established local stakeholders and local organisations for outlining the needs of the community and providing leadership, as well as local consulting experts in the actual construction. The procedures and practicalities around the process of construction

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<sup>415</sup> See Section 3.6.2.2.



are usually not the core capacity of the local partner, so adequate support from the architect and local professionals is usually appreciated. In the early stages of the process, the architect can be a mediator and a facilitator and help create the structure around the building project. Even with strong organisations like KWIECO and A.P.E., we held many workshops with their personnel, which helped them to outline and articulate the extents and ambitions of the building project. However, the main reason for the project – the community initiative – has of necessity to arise independently of any outside influence.

The local partner organisation also needs to have the capacity to raise funds, at least enough to sustain the activities meant to finally take place in the building. In KWIECO Shelter, the NGO also took the responsibility to fundraise for the land, and has kept the shelter activities ongoing since inauguration.

### *Balancing to Meet Local Standards*

*Doors out of recycled metal. It should not be too visible that the material is recycled to Suzie's opinion.*<sup>416</sup>

In our community meetings in Senegal, the women themselves sometimes seemed to get overenthusiastic with their wishes. One asked for Moulinex machines, another for tiny porcelain toilet seats for children, and another for a different fancy feature. The 'wish list' kept growing until someone from the group helped moderate the discussion to a realistic level.

In community projects, the budget is nearly always limited. Despite this, the design needs to meet local standards to a reasonable extent. If it goes below these, it is disrespectful. If it exceeds the local standards and gives an impression of luxury, the message gets distorted. By using all the wit and resources available, a skilled designer can come up with design solutions that are both economical, environmentally sustainable, promote recycling of materials and still be aesthetically pleasing. The aim is to make the most out of the least and show the community that money alone does not define the quality of the built environment. It is more about careful and thoughtful design that ensures the building a long-lasting life and appreciation among the community.

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<sup>416</sup> APE-2.

### 3.6.3 KNOWLEDGE AND TECHNOLOGY

#### SANITATION

#### LOCAL MATERIALS

#### ENVIRONMENTAL AWARENESS

#### LOCAL KNOWHOW

#### EXCHANGE OF KNOWLEDGE

As architecture is a discipline of tectonics and materiality, concerned with gravity and physical forces, it cannot do without informed decisions on the available construction methods and materials. In this category, addressing knowledge- and technology-related factors in architectural design, I will consider how local technical issues affect the conditions of development and architectural processes, as encountered in the cases in the data.

Technology can be a vehicle for mitigating discrimination and social stigma in issues like sanitation and menstruation. Through technology, local attitudes can also be influenced towards more sustainable environmental solutions.

#### 3.6.3.1 Sanitation

For the sake of human dignity, functioning sanitation is of fundamental importance – yet, in engineering terms, it is simply a technical matter. However, we are still far from the goal of providing all communities and individuals the possibility of sufficient hygiene and properly maintained sanitation.

##### *Basic Human Need*

*Toilettes homme et femme. Ordentliga public toilettes.  
(Toilets for women and men. Proper public toilets.)*<sup>417</sup>

*Walking through Mokattam, seeing some workshops and a lot of garbage. Less smell than we expected, nothing like Rufisque – probably due to the fact that the garbage is dry, and the communal sewage system seems to work.*<sup>418</sup>

*They [the girls] practically live there, since they are allowed to go home only one weekend a month. The sanitation is very poor; the toilet experience is horrendous. If there was a hostel, they would most likely host almost 200 girls.*<sup>419</sup>

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417 WomC-1.

418 APE-1.

419 Nya-3.



A Household toilet in informal settlement,  
Dar es Salaam, Tanzania.  
PHOTO ZITA FLORET

Properly functioning sanitation is one of the most important prerequisites for dignified human life. According to the United Nations Sustainable Development Goals, water and proper sanitation is a basic human right.<sup>420</sup> It is a fundamental part of the infrastructure in any human habitat but it is too often disregarded and badly organised by the authorities, especially in low-resource communities. It is an engineering issue with a high humanistic value.

Poor sanitation causes serious health risks and considerably affects the living conditions of inhabitants. Open defecation is a severe problem in densely populated areas, where proper sanitation is not available. In Rufisque, Senegal, the former sandy beach has vanished into the sea and the city centre is protected from increasing coastal erosion by a huge barrier of large stones. The nearby colonial-era marketplace has taken over the adjacent streets as vendors occupy the pavements, causing a constant traffic jam and congestion. The sanitation facilities offered by the city are utterly inadequate. In the absence of public toilets, one would see a constant flow of city dwellers and market vendors on their way to squat on the coastal stones, using the rocky shoreline as a public toilet. Their attempt to become invisible during the procedure is a humiliating scene, as is the fact that the environment is highly polluted by human faeces.

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<sup>420</sup> United Nations. "Sustainable Development Goals" Goal 6.  
In <https://www.un.org/sustainabledevelopment/>, accessed May 30, 2019.

## *Affordable Solutions*

*Mary tells Eva she is very much against the bio-gas, she doesn't want to keep cows, and she is uncomfortable with the idea of gas produced of human waste. However, she agrees to come and see it if we find out where it is used and can be seen.*<sup>421</sup>

*Biogas system is not feasible in dense urban areas like Mokattam. The local sewage system is recommended for black waters, but we can separate, filter, disinfect and neutralize the gray waters to be used for irrigation.*<sup>422</sup>

*Sanitation will be a "worm" system, for which CCI will provide training for the community during construction and after.*<sup>423</sup>

The level and quality of sanitation infrastructure is a direct indicator of the income level and societal status of the inhabitants; simultaneously it reflects the authorities' capacity to serve the population. In places where communal systems are not in place, we have investigated affordable low-tech options such as biogas, filtering of grey water and biofill toilets with African tiger worms. In densely built areas, as in Mokattam, Egypt, and in Rufisque, Senegal, systems that require an open area for filtration cannot be used, except for grey water that can be filtrated and used for irrigation with a smaller area than is required for black water containing human faeces.

In our Women's Centre we had to use a septic tank<sup>424</sup>, because in the densely built area it was the only feasible solution at the time. Equally, biogas is not feasible in urban areas, but as a quite advanced low technology system, it is a viable option in areas of lower density and a sustainable level of use, such as in a school hostel. The biogas can be used for cooking, as it comes out odourless in the process. In the Nyang'oro Girls' Hostel, however, we used a biofill toilet system with African tiger worms, which separates the liquids and solids; the liquid waste is filtered to the ground and the solid waste becomes fertiliser after being first eaten by the worms.

With a scarcity of clean water, such low-tech and low-maintenance solutions become significant. However, they require education: in the biofill toilets, a small amount of water can be used, but if any chemicals are let in their chamber, the tiger worm population dies out. The users need to be thoroughly instructed and educated to keep the system operational. At the time of writing this thesis, the engineering reports and community feedback on the Nyang'oro biofill toilet is still awaited.

In addition to meeting the limited financial resources, the low-tech and low maintenance systems described above also have the potential to create environmental awareness and promote ecological sustainability.

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421 TunH-3.

422 APE-1.

423 Nya-3.

424 A septic tank requires emptying from time to time, frequency depending on use.

## *Cultural Connotations*

*Discussions about toilets and kitchen being in the same building: open to different directions, so there will be no intersecting traffic.*<sup>425</sup>

Although sanitation is for the most part a matter of technical solutions and practicalities, the subject encompasses significant cultural and humanistic values, prejudices and connotations. Sanitation is both a cultural and a technical issue. It is a major wellbeing issue, and it deserves to remain a priority in architectural design.

In an earlier section about cultural habits and taboos, I discussed menstruation, describing how in some areas it still holds a stigma, regularly preventing women and girls from taking part in the societal life. The engineering solution – a simple incinerator to burn the used menstrual pads – which our technical experts were implementing in our school hostel design, is a huge relief and improvement in life quality for the girls. It also gives an example to the community on how to approach a natural phenomenon such as menstruation through the implementation of a technical solution. In Nyang'oro, the burning of used pads is practically the only option due to the severe lack of water. Environmentally, a better solution is to use recyclable pads, but this requires a sufficient supply of water for washing.

Unlike sanitation and personal hygiene, clothes washing can be a social activity. Among the 80 girls who get together after the school day to do their laundry in the school hostel, it is quite a cheerful event. In Nyang'oro Girls' Hostel, we quickly noticed that the laundry facilities we had designed were inadequate in size. For the next hostel in Ilambilole, we have added spacious and airy laundry areas in the backyard, to allow the girls to socialise while tending their laundry, emulating how this occurs in their home villages.

### **3.6.3.2 Local Materials**

*Upwards the Nile. Saw some houses along the fields made out of mud/straw bricks, quite many straw fences (height about 1,5-1,8m), and vaultings.*<sup>426</sup>

As discussed earlier about critical regionalism, architecture of locality, according to Frampton, is “consciously bounded to site, sensitive to site-specific factors such as topography, light and climatic conditions, emphasizing the tactile as much as the visual, and one of opposing over-sentimentalizing vernacular.”<sup>427</sup>

The question of materials is a matter of both practicality and cultural appreciation: the locality of a material can be defined strictly by availability and need of transport. Cultural connotations and messages bear deeper meanings that connect to place-making, quality of the environment and community response.

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425 Tuna-2.

426 APE-1.

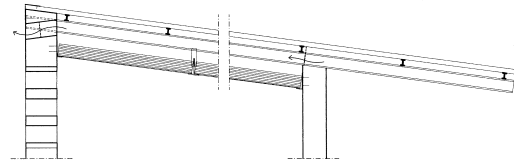
427 Frampton, 2007:327. See Section 2.2.4.



Hashmi stone, Cairo, Egypt.  
PHOTO SAIJA HOLLMÉN



Straw mat ceiling in the Women's Centre.  
PHOTO JUHA ILONEN



Drawing by HRS

### *Specifying the Locality of Materials*

*We all agree that after a quite thorough investigation on how to cut the local stone, it would be too costly and labour intensive and require too heavy machinery. We agree to use the compressed earth bricks, for their cost effectiveness and positive impact on the community. We can purchase the machinery required from Sido in Moshi, and the young boys and men of the neighbourhood can learn how to produce them.*<sup>428</sup>

*Limestone and Hashime stone and possible ways of having this material as a loadbearing stonewall structure. Approved possible. There would be some hidden concrete at some points, but mainly stone. Hashime stone was proposed to be a better alternative.*<sup>429</sup>

*The bamboo surface of the doors is rougher than it was meant to be, but Rocktronic has done everything in their means to achieve the same surface as we asked for, but probably there is a difference in the Tanzanian quality of bamboo compared to the Thai one. Or, then there is a tradition from generation to generation in Thailand that has developed a skill that is not achievable in a project like this.*<sup>430</sup>

428 TunH-3.

429 APE-2.

430 KWI-9.



Construction is about resisting gravity. It is about materials that can endure time and harsh conditions, and remain solid despite becoming worn-out. Materials, their qualities and availability, have traditionally defined much of the physical realities of construction. We can only build out of what is available, which constitutes the fundamental grammar of architectural design.

In low-resource communities, the availability of building materials is essential. The materials have to be either locally produced or transported from the vicinity, in order for them to be financially achievable for the local community. The issue of locality, however, is complicated. By definition, it is a highly context-related issue. In addition to availability, locality includes distance and transportation alike. In rural areas, the variety of materials may be narrow, albeit some can be produced from locally available natural ingredients. In addition, there may be more space available for production. In urban contexts, the availability of construction materials and transport facilities may be higher, as may be the selection of materials.

In our projects, we have sought to use local materials instead of imported ones. In Rufisque, Senegal, the local soil was unsuitable for any brick making, so we chose to use concrete blocks, although less sustainable, since the biggest cement factory in West Africa, called Sococim, was found in the outskirts of the city. This made concrete a locally available material. Whenever a material has to be imported, shipped or otherwise transported, the cost and environmental effects will rise. In urban construction, the modern standard materials, such as steel, aluminium and concrete, usually require transportation, and their production creates a considerable environmental load. It is becoming more critical to consider these issues.

In Egypt, it was suggested that the A.P.E. Learning Centre would be built of a local sandstone called *hashmi*, since it was available to be quarried out of the Mokattam mountain close to the site. In Moshi, Tanzania, we searched for local stone, such as travertine, basalt and a volcanic stone called *marab*, but finally it became obvious that the labour costs to make it suitable for walls would have exceeded the budget. In Nyang'oro, Tanzania, the local community has contributed to the construction of the girls' school hostels by providing natural stones for foundations and homemade burned bricks for wall construction.

In hot climates, any organic material, such as wood, palm leaves or bamboo, needs to be treated for fire safety and insects. In the African countries we have worked in, the tradition of building with bamboo is not very strong. Despite our efforts, we have not yet found a partner willing to work with bamboo in our construction projects, regardless of the potential of the material. In Senegal, we used a locally-produced straw mat as an insulation in the ceiling, which echoed traditional straw structures in a modern building. This was also a way to honour the local traditions as well as presenting a new way forward by re-interpreting old techniques.



Women's Centre in Senegal: old glass bottles that make glass bricks, rusty car rims as ventilation openings in the toilets, window shutters and doors made of recycled metal.  
PHOTOS JUHA ILOINEN AND HELENA SANDMAN

### *Local Attitudes*

*I say that our dream is to be able to make a building totally in earth. M. says, that actually she, through Anna Heringer was involved with Martin Rauch whose former Swiss students have done a project in .... G. had been to see the building, but said it's like the cow shed at his grand parents' place and not suitable for a dormitory.<sup>431</sup>*

The attitudes of local communities towards the local and traditional, especially regarding organic materials, can sometimes be negative because they can be considered backward-looking and outdated. However, sometimes the oldest traditions bear the greatest wisdom. Studying the old ways of local construction is useful in terms of both cultural understanding and climatic adaptation. Culturally, traditional construction tells about the ways of living of the indigenous communities and of how the social realities have intertwined with the built environment. Technically, on the other hand, vernacular and traditional construction has profoundly adapted to local climate, tested in the same conditions for centuries. Traditional construction offers fundamental lessons on

<sup>431</sup> Nya-1.

the local context for the architect to learn – socially, culturally and technically. Local materials are the primary elements of vernacular architecture and it makes sense to consider how they can be modified and developed to meet the requirements of contemporary construction.

In low-resource communities, the awareness of environmental issues, such as the recycling of materials, deforestation and climate change is sometimes very low. The local attitudes reflect this lack of awareness. The aim of our projects, in addition to cultural sustainability and enabling the communities, has been to raise awareness of sustainability and environmental issues by providing new and innovative, more sustainable ways of construction. Quite often, it has proven to be challenging; changing local attitudes is a tardy process, which requires persistence and tangible examples. Cross-cultural communication, outside visitors and well-informed local residents can become agents in the process of changing attitudes.

### *Recycling of Materials*

*All trash is burned: need to seriously consider the trash issue for the new centre.*<sup>432</sup>

*Visit to Kibo Matchox Ltd. This factory uses recycled paper for making matchboxes. Most of the recycled paper is brought in from Dar es Salaam; no organized waste paper collection in Moshi or Arusha.*<sup>433</sup>

*Dr. Hagggar was kind enough to spend two hours responding my questions, and gave me samples of the recycled materials he had invented.*<sup>434</sup>

*The Kattameya sorting centre of A.P.E recycles 100% of all the waste, which is the most efficient figure in the world... Not much capacity to product large amounts, but an attitude of innovation.*<sup>435</sup>

Regardless of culture or location, global environmental challenges oblige us to consider and promote the recycling of materials. Throughout the industrialised world, recycling and ‘upcycling’ has been accepted as something valuable and positive and measures are taken to make it more efficient. In low-resource communities, however, we can still find attitudes indicating that recycling is associated with poverty. For many, it is still a matter of necessity, not a deliberate choice, which may cause recycling to be perceived as something negative.

In our first project in Senegal, the Women’s Centre in Rufisque, we wanted to give an example of using recycled materials in construction. At first, the idea was strongly rejected by both our consulting architect and by the women themselves. We kept insisting, and finally the building became famous for its recycled elements: old glass bottles that make glass bricks, rusty car rims as ventilation openings in the toilets, window shutters and doors made of recy-

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432 TunH-2.

433 Ibid..

434 APE-1.

435 Ibid..





STEFAN BREMER

Zabbaleen community recycling materials in Cairo.



STEFAN BREMER



STEFAN BREMER



SAIJA HOLLMÉN



HELENA SANDMAN

clad metal, all steel reinforcing bars recycled. The idea of recycling became accepted and finally cherished, as the details were presented in an elegant, refined and visibly functional manner. For the women it was of utmost importance that the building should look nicely finished and exquisite – like a Senegalese woman herself! After all, it was meant to be ‘their jewel’.

For the Zabbaleen community in Cairo, Egypt, recycling is a straightforward issue: everything is reused. As they make their living out of recycling, it was only natural that we would seek ways of promoting their courageous work. We worked with Dr Salah El-Haggar, professor at the American University in Cairo, who was developing materials out of the trash collected by the Zabbaleen community. His research included materials such as plastics, glass, waste marble chipping, palm tree, sugarcane and woodchip waste, which he studied to come up with new composite materials useful in construction. He aimed at turning the recycled materials into pavements and street furniture, or traditional *mashrabiya*<sup>436</sup>, which allow airflow in the arid climate. For the Zabbaleen, this was also an empowering message of appreciation of their work, which so often goes disdained. Using recycled materials also helps to keep the construction budget within the given limits.

The city of Moshi in Tanzania has repeatedly been nominated the cleanest municipality in the country – which may not be as good as it sounds. A great majority of the household waste is burned, either in the backyards or on the roadsides, causing the air to become quite polluted at times. Moshi means ‘smoke’ in Swahili, and consequently the city has high rates of child mortality caused by respiratory complications. Furthermore, while we worked there, there was no organised waste paper collection in the Moshi or Arusha regions. Evidently, there is still a lot to do in continuing to raise awareness of the importance of environmental protection. Fortunately, with the growing global awareness, local attitudes are also beginning to change.

### 3.6.3.3 Environmental Awareness

*Bw Poteka gave a small presentation of the “Sustainable Moshi Programme”. In 1999, with the support of UN Habitat, an “Environmental Profile of Moshi Municipality” was prepared, out of which came out issues \*of importance that were prioritized, such as water, sanitation, waste management etc... The program has succeeded in installing energy saving stoves to some schools and prisons, and organizing solid waste management.*<sup>437</sup>

*The energy production in Egypt is 95% of fossil (oil and gas), only 5% of renewable (hydro, wind or solar). Cutting the limestone takes less energy than burning the tiles. Solar water heaters widely available, different.*<sup>438</sup>

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436 Arabic architectural element including semi-transparent and semi-closed window structures, serving as sunshades and ventilation openings.

437 TunH-2.

438 APE-1.

Home made burnt bricks, Iringa, Tanzania.  
PHOTOS SAIJA HOLLMÉN



Making Interlocking stabilized soil bricks (ISSB) in NHBRA, Dar es Salaam, Tanzania.





When identifying the most sustainable and environmentally friendly solutions of construction, both old and new technologies are worth considering. Raising awareness of environmental sustainability is a global concern which deserves to be thoroughly addressed in all circumstances.

### *Fighting Deforestation*

*The site has several trees, some dead, some half dead. Trees grow quickly in Tanzania, so we don't need to worry so much about trees being cut.*<sup>439</sup>

*Somehow the staff does not like the idea of old trees.*<sup>440</sup>

*G. phoned the headmaster of the Nyan'goro school to ask how many burnt bricks they have already collected (42 000) and how many they are still expecting to arrive in the near future (15 000).*<sup>441</sup>

In community projects, the engagement of local people in construction is crucial in one way or another. It is also an opportunity to raise awareness of environmental issues, such as deforestation. In countries such as Tanzania, for example, where the nature is lush and generous, and all vegetation grows quickly, the appreciation of trees is astonishingly low. Wood is still widely used for cooking and brick burning in the rural areas, which is one of the reasons for increased deforestation. In our designs, we have always tried to preserve at least the biggest and strongest trees on the site. For us, it has come as a surprise how little our Tanzanian collaborators have valued this effort. "The trees grow so fast, so why keep them?" is the general attitude when something is so easily and naturally available, and has caused large-scale deforestation throughout the country. Trees have been thoughtlessly cut down for decades, without replanting new ones. Today, measures are being taken on a national level to correct the imbalance.<sup>442</sup> However, the attitudes of the local communities also need to reflect this change in order to make a difference.

In rural Tanzania, burning homemade bricks is a common practice. Non-industrial brick burning in open piles is inefficient and requires a considerable amount of firewood. However, as burned bricks are more durable in construction and require less maintenance than soil structures, they are seen as superior to adobe. Furthermore, the Tanzanian people disdain soil in construction, as it has negative connotations of poverty. They see it as a material only suitable for animal sheds, not for humans.

Adobe tiles, made on site of earth or mud, are most commonly found in rural areas around the world. In Egypt, the adobe is a rural tradition still applied in the Upper Nile region. Soil structures are prone to erosion, hence they require proper foundation and roofing. In arid climates they last longer, but in areas with rainy seasons proper water management is crucial. Mud

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439 KWI-2.

440 KWI-3.

441 Nya-2.

442 "Panda Miti Kibiashara Forestry Program", accessed July 23, 2020.

structures need to be protected from rain and rising damp from the ground. However, if they are well protected and kept dry, they make a healthy and breathing structure, which can adapt to variations of air humidity.<sup>443</sup> So far, we haven't been able to convince a local partner to test a pure soil structure, although this would be an efficient way to fight deforestation. However, to make a positive impact on local attitudes, it would have to be realised with utmost elegance and beauty and undeniable structural rigour.

A slightly modified version of mud brick is the interlocking stabilised soil brick (ISSB), which was used in the Nyang'oro school hostel building in Tanzania. ISSBs are produced by compression of a mixture of soil, water and 8% of cement – the proportion of stabilising cement depending on the qualities of the local soil. The ISSBs are made on site with a simple manual compression machine and dried in the sun. The making of ISSB is a labour-intensive process in which the whole community can participate. It is a way of raising community awareness of alternative and more sustainable techniques to brick burning. The process should also include training on the general construction on how to protect the ISSB structure against rain and rising damp.

A further development towards even more sustainable construction would be to substitute the cement in the ISSB with an organic stabiliser, such as lime. This would turn the ISSB into a completely recyclable material. We are currently pursuing research on the topic with the Tanzanian National Housing and Building Research Agency (NHBRA).

### *Ecological Sustainability*

*Richard Komba, quantity surveyor. Shaaban Ramadhani Saidi, engineer.*

*They both laugh when we say that there won't be any air-conditioning and the engineer says there should be.<sup>444</sup>*

*The kitchen should use gas, not electricity. Says that it also makes the people more conscious about the use, as the bottle has to be changed, more ecological.<sup>445</sup>*

Local attitudes can get in the way if one wishes to make environmental improvements and reintroduce old and traditional techniques even in a modernised way. On the other hand, new technologies, such as solar and wind power, are usually embraced more quickly. This reflects the common attitude of modern technology being valued because of its novelty, something more advanced and developed than traditional techniques – even though the traditional way sometimes would be more efficient. In the case of natural ventilation, for example, architectural design following the principles of traditional buildings can make a fundamental difference to how airflow is conducted and managed in the building compound. If the building is designed to meet local climatic

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443 Orhan, 2004.

444 KWI-3.

445 KWI-4.

conditions, sufficient airflow can be secured and excessive indoor air temperatures avoided even in large building complexes.

The use of biogas has a benefit in addressing deforestation in areas where firewood is traditionally used for cooking. Biogas is produced from human waste in a digester that treats organic waste in a sustainable way. The gas is odourless and can be conducted with pipes to the kitchen facilities and used for cooking.<sup>446</sup> This is especially useful in places where large numbers of people live, work or study. Gas produced from toilets for cooking is a low-tech and highly ecological option for organising sustainable sanitation and lowering the rate of deforestation. Again, it needs a few pilot projects in the area to show the local communities that the gas really is odourless and easy to use before it can be fully accepted.

Solar technology is developing fast and the products are becoming available to low-resource communities as well. So far, the prices of solar electricity systems have been too high for our projects but this will hopefully change within the near future. However, solar energy can also be used in multiple ways in low-resource communities with already existing technologies.

When there is an abundance of solar energy, it is useful to think of multiple applications. In low-resource settings, investment in solar water heaters and solar cookers is viable and highly efficient. In distant areas, solar energy is not just clean and sustainable, it is sometimes the only source of energy. Using solar cookers can considerably contribute to reducing deforestation. Electricity helps to preserve food and produce lighting for safety and post-sunset studies. All this technology is already available and extremely low-tech solutions exist to help low-resource communities to manage their environment.

Ecological and environmental sustainability is a relative term. It is useful to bear in mind that the definitions of sustainability are context related and highly dependent on local conditions. What applies in the northern hemisphere is not necessarily sustainable in other parts of the world. Generally, the carbon footprint of construction should be considered in all stages of the project, from raw materials, manufacturing, assembly, usage, maintenance and repair to disassembly and recycling<sup>447</sup>.

#### 3.6.3.4 Local Knowhow

*Foundations 80 cm, due to clayish land. Only building in the area with proper foundations.*<sup>448</sup>

*SIDO (Small Industries Development Organization) in Moshi. They are making everything! Doors and windows with frames, chairs (a nice one), tubes... and all out of recycled metal. They can probably produce anything-needed out of metal according to drawings. They produce the brick machine that they call 'Hydraform' as an exact copy of (the actual) Hydraform.*<sup>449</sup>

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446 See Section 3.6.3.1.

447 Kuittinen et al, 2019.

448 WomC-4.

449 TunH-1.

*The solar panels are usually positioned on a roof tilted 10 degrees towards the North.*<sup>450</sup>

Local professionals are experts of local conditions; their knowhow is the best resource in any construction project. Identifying and engaging such professionals can contribute considerably to the success of a project.

### *Wisdom of Local Communities*

In our projects, we have relied on local knowhow and sought for consultation from local experts. This becomes valuable especially in community projects, where the engagement of local residents is essential for future maintenance and ownership. The local community is encouraged and enabled to take the role of an active agent, inasmuch as their cultural values are acknowledged in the design process of the building project. In addition to local residents, local professionals are also crucial players: their situated knowledge of the local conditions and profession-related expertise is invaluable for the sustainability of the project.

Western development collaboration has seen too many projects involving object-like buildings, alien devices or a technique invented elsewhere, which have been imported to a low-resource community in the name of 'development aid' without being studied from the perspective of local conditions. The 70-year history of development co-operation is riddled with such outside interventions, which communicate a mentality of superiority and a sublime lack of understanding of local conditions and the actual needs of the communities.<sup>451</sup> The makers of such projects have ignored the fact that people do not need to be told how to live their lives: The residents living in a certain area, in a certain climate and in a certain community, are the best experts of their own environment. Wisdom resides within the community itself and any outside attempt to question this fact will most likely result in a failure of some degree.

This is not to say that innovations from outside the local context could not be useful. Globalisation is affecting us all and very few communities live in isolation. Especially those low-tech innovations that are related to environmental protection and sustainability are worth considering, although they need to be tested and possibly modified to meet specific local conditions.

### *Pitfalls of Development Aid*

Aid is a controversial concept altogether. In situations of immediate and life-threatening conditions, such as natural cataclysms that cause human emergencies, it is of course everyone's duty to help and give aid as quickly as possible. However, in what was called Development Aid in the earlier decades, giving and receiving aid created a passive mind-set and an undignified imbalance, which at its worst promoted dependence instead of independence, made people

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<sup>450</sup> KWI-4.

<sup>451</sup> Moyo, 2009.

passive rather than empowered, and prohibited active participation rather than promoting engagement.<sup>452</sup>

To some extent, development aid was also directed through architectural projects and construction. However, as discussed in Section 1.3.2, the Finnish governmental aid excluded construction after some unsatisfactory projects where the results had not met the initial project goals and purposes. Today, Ukumbi NGO is raising awareness of the possibilities of sensitive architectural design in meaningful development collaboration.

Lessons learnt from the early days of development cooperation have led international practices to develop in collaborative and locally empowering directions, where the local residents become active agents and 'receiving' becomes a collaboration of mutual benefit. The aim of modern development cooperation is to engage and enable local communities and create opportunities on site. The direction has turned towards more holistic and interdisciplinary approaches, from products towards locally engaging processes.<sup>453</sup>

For an architect working with underdeveloped communities, it is useful to bear in mind that sometimes the improvement is not about architecture, nor built environment at all. It may rather be a process of getting agricultural products to the market more quickly, solar cookers for households, keeping the fish cold until they reach the vendor, a drilled well, a sowing machine or community training to grow poultry. The initiative for every community project has to be identified by, or at the very least, with the community itself.

### *Local Expertise*

*Signore Cuppini, with his 60 years of experience in construction and mining, told us about different possibilities of cutting and using local stone for construction. Traverta, basalt, marab (volcanic. softer ones would easily crumble when cut).<sup>454</sup>*

*Wind turbine electricity is cheaper than the municipal electricity, and far cheaper than solar energy. The model built by Kandie is a low tech version, which requires very little maintenance. The whole wind turbine system with batteries is built with locally found materials.<sup>455</sup>*

*Principles of construction processes. Fares and Saija prefer using local contractors and fundis, for education, lower price and better quality management.<sup>456</sup>*

*The survey looks very peculiar, with a lot of small apparently human made hills.<sup>457</sup>*

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452 Ibid..

453 Ministry for Foreign Affairs of Finland. "Goals and Principles of Finland's Development Policy" <https://um.fi/goals-and-principles-of-finland-s-development-policy>, accessed July 23, 2020.

454 TunH-2.

455 Ibid..

456 Nya-5.

457 Nya-1.

*Construction assessment, very poor quality. Many things missing, like the incinerator...Indoors, the ventilated ISSB walls are covered with wire mesh. The mesh itself is ok, but the way it is fixed is just breathtakingly ugly... The roof structure is rough, and that would be fine, if it would follow the design. The roof structure above the rooms is blocked, no ventilation above the rooms.*<sup>458</sup>

Construction is a resource-intensive activity, which requires specialised expertise. Local knowhow is crucial in finding the best available solutions for every aspect of the project and all the challenges and problems encountered. In our projects, apart from working with the community or NGO who owned the project, we have collaborated with local architects, engineers, quantity surveyors, cost estimators, constructors, NGOs providing low-tech solutions, universities, governmental research institutions, local and national authorities, local businesses and charities – and a few well-informed foreigners who have settled in the region. Apart from the latter few, we have been the only foreigners in the projects.

We have sought to present no other outside interventions apart from our own architectural designs, which we have striven to root in the local culture and conditions, to the best of our knowledge. This has helped us to create an atmosphere of mutual appreciation.

We have worked with local consulting architects to verify that our design follows, if not the local conventions, at least the cultural coding and principles necessary to make the building accepted and ‘owned’ by the local community. The consulting architect is also needed to sign the building permit application and drawings in those countries where authorisation is requested. The local architect is also crucial in the management of the project and later in the supervision of the construction work.

Competent engineers are required for land surveying, to calculate structural strength, optimal sanitation, quantity of materials and cost estimates. These are specialised skills and sometimes it takes a while to identify those experts who would also be willing to consider alternative low-tech solutions to engineering problems, propose new alternatives and try out details that are not the most common solutions to local challenges but might prove to be superior over time. The roof structures in our projects both in Senegal (Women’s Centre in Rufisque) and in Tanzania (Nyang’oro School Girls’ Hostel) provide examples of persistent miscommunication and the power of convention. A new structure, although simple, was not easy to comprehend. In Rufisque, the misunderstanding in the construction phase led to a raised building volume, although in the end the result was approved and found functional. This was mainly due to our local consulting structural engineer, who was able to communicate the detail to our constructor better than we could. In Nyang’oro, on the other hand, the roof structure was built following the conventions in the area, paying little attention to the architectural drawings. For us, this was a

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458 Nya-5.



lesson learnt about the importance of thorough communication in all stages about any new technical suggestions that deviate from the local conventions, no matter how simple they may seem to us.

A local constructor keeps the project on track, finds local workers and organises the necessary training for the communities. In Senegal, we hired a contractor who was originally from the same area so he was well connected and able to hire the sons and husbands of the women we were working with to do the actual construction work. This was helpful in rooting the building in the local community and creating a sense of pride. It also served as an educational project for the workers, as we introduced proper foundations and quality brick making in an area where most of the construction was unauthorised and of low quality. In Nyang'oro, however, our contractor was not based in the area, but in Dar es Salaam<sup>459</sup>, which caused serious quality problems in the construction. Originally, the district engineer was supposed to supervise the construction, but according to the school headmaster, he visited the construction site only once. The local community workers were left too often without guidance, and many of the issues discussed while we were on site were eventually neglected. The lack of proper supervision resulted in a multitude of quality problems in the finished building, some of which were too expensive to correct – such as the entire roof structure. This was a reminder and another lesson learnt of the importance of communication with local agents, local workforce and local supervision in all stages of the building project.

For the next hostel project in Ilambilole, the process will be iterated. We have engaged a supervising architect from the private sector, who is also able to communicate structures and other details to the local workers. A locally based contractor will be hired to manage the construction. Most importantly, the architects plan to stay alert to any miscommunication more often than we managed in the Nyang'oro hostel project.

Local NGOs and charities sometimes possess valuable information and knowhow in specialised fields, such as wind power turbines, energy saving stoves, biogas and biofill sanitation systems, rainwater collection, water heaters, drilled wells and so on. The list keeps growing as new inventions appear and become available and localised. To find the appropriate knowhow and expertise requires a wide network of agents and stakeholders and each building project becomes quite a puzzle. The technical process, from the drawing board to the finished building, can be quite similar everywhere, but the local variations, fundraising issues and the context of a low-resource community make it considerably different from the North European building process.

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459 The distance from Iringa to Dar es Salaam is close to 500 km, taking more than eight hours by a car.

### 3.6.3.5 Exchange of Knowledge

*David is relieved to see roles described in a clear way. Donna Cohen +DR go through descriptions carefully, and come up with a list of questions that David can ask each professional as he interviews them.<sup>460</sup>*

*Meeting with Marwa Dabaieh at the hotel lobby. She defended her doctoral thesis in Lund University in December. She does research and volunteers in an ngo AYM : Amar ya Masr (means approx. "properity for Egypt") put up by a few university professors, building an international network to improve the infrastructure of the zabbaleen areas.<sup>461</sup>*

*CCI's office by Millennium Tower Dar es Salaam. We discuss this year's Sustainable Global Technologies students' application to the Ministry of Foreign affairs through Ukumbi for the Chamazi community center to be built with bottle technique.<sup>462</sup>*

Experiencing a variety of cultures has been an invaluable personal learning opportunity, in which professional and personal collaborations have intertwined with community encounters. It has initiated a genuine hermeneutic circle, leading to an accumulation of tested results and failures alike.

#### *Personal Learning Experience*

Each of our projects in the African continent has been a remarkable learning experience. In all of them, we have been the ones to learn and gain the most. However, I recognise that we have been in an apparently privileged position to be able to seek out connections, create networks and launch initiatives which may seem progressive or courageous if viewed from the outside. The ability and confidence to proceed with such initiatives may well stem from the fact that our team came from a society with egalitarian ideals. We had the relative advantage of growing up in a country with equal opportunities, quite unaffected by gender-based restrictions or divisions. In Finland, gender is an attribute that neither defines one as a person, nor one that precludes anyone from fully engaging in progressive and meaningful societal activities. Our experience of equality has profound roots, beginning with the entirely gender-neutral attributes of the Finnish language<sup>463</sup>.

Certainly, there have been examples of egalitarian societies in precolonial African countries as well. Neither is Finland yet completely free from gender-based imbalance; there are still some male dominated areas in the society, but nevertheless the key issue for our generation has been the equality of opportunity. The general attitude of promoting equality in society has

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460 TunH-2.

461 APE-4.

462 KWI-9.

463 The Finnish language has only one personal pronoun, "hän", which is used of every person, regardless of their gender. Nouns and adjectives are equally gender neutral.

allowed my generation to move ahead from defensive positions. It is a highly specific example of cultural locality, which has granted us the advantage to act upon curiosity in a relatively unconstrained manner and has offered a fruitful ground for collaboration and the search for new perspectives. This position has made personal learning experiences possible, without having to think of our gender as an obstacle.

In projects such as ours, small in scale and sometimes big in impact, a wide network of stakeholders is important. Construction is an everyday business – people build everywhere – therefore the interference of an outside architect has to be well justified. If the *mzungu* architect is not claiming to know any better, then why is she here? For us, the whole journey has been about learning, gaining understanding and creating new knowledge through collaborative efforts. The outside designer's involvement brings about an opportunity for a larger improvement outlined with the community and a possibility to test solutions that might work better than the commonly used, in terms of environmental and ecological sustainability. It has the capacity to produce a project that is aesthetic and culturally rooted and offer the community some of those opportunities they have identified as necessary to make a positive impact in their everyday lives. This learning process is best described as a hermeneutic circle<sup>464</sup>, in which each project contributes to the accumulation of knowledge. In this process, learning from mistakes is crucial: admitting and embracing failures is the key to any development, and allows for mutual exchange of knowledge and personal growth.

### *Research and Mutual Learning*

*Scott told that in TunaHAKI they have started making charcoal out of corn-cobs. This is a simple method invented by a professor in MIT, that includes sand and a locally found chemical, and a burning process. The charcoal produced this way doesn't produce smoke. (Note that the leading cost of death for children under five years in Moshi is smoke.) For TunaHAKI this can be an income generating activity.*<sup>465</sup>

*Visit to CAMARTEC: Camartec develops and produces ecological technical solutions, such as biogas, solar cookers and driers, solar heaters for water... The municipal water pressure in Moshi is very good (sometimes even too high), This system requires very little maintenance, and the cost of one is 1,8 Million Tsh (= 1560 USD).*<sup>466</sup>

*TAGRODE biogas (Tanzania Grass Roots Oriented Development)...TAGRODE has built several biogas plans for households in the nearby region, with successful results. Some schools included.*<sup>467</sup>

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464 See Section 3.3.

465 TunH-2.

466 TunH1; TunH-2.

467 Nya-2.

*Started to look into ISSB technique and scientific articles... Technical qualities, pros&cons. compared to burned bricks. Community effort to be appreciated.<sup>468</sup>*

*Mr. Chilla tells about the NHBRA. It's a research agency on building materials, to reduce costs and promote better techniques for construction & sisal fibre roof tiles. New machine 1:3 for us [ISSB]. Stabilizer studies by director emeritus, Dr. Kintingu.<sup>469</sup>*

Many of our projects have included collaboration and knowledge exchange with governmental agencies, such as CAMARTEC<sup>470</sup> and NHBRA<sup>471</sup> in Tanzania, to develop low-tech and low-cost building materials suitable for rural areas, as well as technologies customised for rural communities. Such collaboration and research has helped us to develop and improve the use of ISSB for natural ventilation, for example.

In practice, our work has been informed by UN Habitat programmes on sustainability and poverty reduction. Our collaboration with universities in Dakar and Cairo have led to material explorations, resulting in new ideas being adopted and implemented.

Locally based NGOs such as TAGRODE<sup>472</sup> have helped us to find solutions for improved kitchen facilities and low-energy stoves and biogas. Sometimes the solutions have included highly progressive low-tech innovations such as wind turbines, solar cookers, making charcoal out of corncobs – the latter developed in collaboration with the *Massachusetts Institute of Technology* (MIT). The Tanzanian Centre for Community Initiatives (CCI) has provided the biofill sanitation technology that uses the African tiger worms, which we have tested in our Nyang'oro Hostel.

Communities have been the key to our learning – the local people are the best experts in the most crucial and fundamental aspects of our projects: the way of life and the needs and aspirations of the local community to create opportunities for local residents. Encountering people on an individual, personal level is the basis of knowledge exchange. Listening and laughing together, being present in the moment, appreciating and respecting people, their time and their company – these are simple and invaluable icebreakers through which personal relations, friendships and mutual learning can grow.

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468 Nya-3.

469 Ibid..

470 CAMARTEC – Centre for Agricultural Mechanisation and Rural Technology, based in Arusha, Tanzania.

471 NHBRA – National Housing and Building Research Agency, based in Dar es Salaam, Tanzania.

472 TAGRODE – Tanzania Grass Roots Oriented Development, based in Iringa, Tanzania.

### 3.6.4 SOCIETY

#### REGULATIONS AND THEIR INTERPRETATION

#### GOVERNMENTAL COLLABORATION

#### FUNDRAISING AND DONATIONS

#### TRANSPARENCY IN POLITICS

#### FEEDBACK AND RESPONSE

The fourth – and last – of my main categories is dealing with society-related factors in architectural design. As much as communication with the local users and project-related stakeholders, local authorities have an equally important role in the facilitation of the project. In some cultures, like Rwanda and Zanzibar, the administration is so hierarchical that mere access to communities by outsiders requires authorisation from the local government. Politics is everywhere, hence good relations with local authorities are of paramount importance. Furthermore, if one wishes to make any improvements or experiments in the local construction methods aimed at more sustainable solutions, it requires the approval of local authorities, and sometimes even national authorities.

#### 3.6.4.1 Regulations and Their Interpretation

Securing land ownership is crucial to a building project, just as is the organisational structure maintaining it. Land ownership can sometimes be challenging to prove because ancient and contemporary legislative systems overlap and collide. Maintaining open and transparent relations with local authorities can help in solving inconsistencies.

##### *Land Ownership*

*Land owning system in Senegal is not simple. The area of Colobane is 'domain national', which means that the land is owned by the government. almost all construction is illegal for people don't know how to buy the rights to build, doesn't have the money or doesn't consider it important. Anyhow, the citizens have started to sell their land, the plots they have occupied. The prizes are just invented from nowhere. Quite a few of the plots are 'owned' by many different people for different reasons. mistake, cheating, sharing.<sup>473</sup>*

The rapid and uncontrolled growth of cities has resulted in many low-resource communities living in precarious conditions in informal settlements, or slums. In these settlements, however established, the residents rarely have the possibility to acquire land ownership, and thus are left without governmental support and infrastructure. The lack of ownership leaves the residents vulnerable to abuse by the authorities and landlords who can arbitrarily raise the rent of the plot occupied by an established resident, or simply evict the inhabitants and bulldoze the entire area without consulting the communities. In many in-

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473 WomC-1.

formal settlements, residents live under constant threat of eviction. The global attention to this state of affairs is, however, beginning to raise awareness of such abuses, and many programmes and initiatives for improvements are on-going worldwide.<sup>474</sup>

In Senegal in the 1990s, the area of Gouye Aldiana in the city of Rufisque had been growing faster than the authorities' capacity to deal with the increasing population, and not always were the land ownership issues clear. Almost all construction was illegal, since the official processes were unfamiliar to the residents: they just didn't know how to proceed. We heard of many arguments over an issue where a neighbour had arrogated a slice of the adjacent property, contesting the ownership of the land. The Women's Centre project was no exception: at some point in the construction, a neighbour on the southern side of our plot claimed that we had occupied one metre of land along the road that belonged to him. Our collaborators took this as a jealous attempt to halt the Women's Centre project. The argument was finally settled by our local consultants. The plot allocated for the project was originally the property of the City, which may have been one reason behind the confusion – as well as the quick resolution of it – that there was not really an individual to argue with.

The Egyptian revolution in 2011 halted the building permit process of the A.P.E. Learning Centre in Cairo. Political ambiguity has prevailed ever since, and we have no certainty of all the reasons why the project is still on hold. At some point, we understood that another agent from the region had made an appeal questioning the land ownership, which may also have caused the building permit application process to be delayed.

In a sustainable community building project, it is essential to provide clear proof of land ownership prior to any architectural design efforts. It is crucial that the owner of the project also has ownership of the land, especially in low-resource communities, where people are not always able to stand up for themselves. This is one of the reasons a local partner needs to be established, such as a local NGO or a foundation with legal capacity. The local municipal authorities require official documents proving the land ownership of the site. Without clarity in the matter, any project can be halted without hesitation.

### *Kihamba<sup>475</sup> of the Chagga People*

*Moshi Municipality. Finding maps on Msaranga area, not able to spot the TunaHAKI site on the map. Mr. Poteka promised to send his assistant there over the weekend to verify the location...*

*The site was drawn on the city plan during the weekend. Surprisingly, it doesn't correspond to the map at all. Mr. Poteka explained us about the "Kihamba" system of the Chagga tribe. The land belongs to the village elders, who can either give the land to their sons, or sell it to whom ever*

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474 <https://www.citiesalliance.org/> See also: <https://unhabitat.org/housing-slum-upgrading>

475 Traditional land ownership system of the Chagga people around Mount Kilimanjaro.



*they choose... Apparently, the city planning system does not correspond to the ownership issues, albeit it is respected by the authorities.*<sup>476</sup>

*Some unclarity with the size and borders of the site...Site corner beacons found here and there. Amuses Karawa.*<sup>477</sup>

In Moshi, Tanzania, the TunaHAKI Foundation had purchased a piece of land from an individual, a plot with clear markings on the site and a fence around it. The plot was legally registered and measured. The site was located on the outskirts of Moshi town, with little infrastructure around it as yet. However, the area was part of the valid town plan and a system of roads, electricity and sewage was planned to be installed. The Foundation had ordered a professional land survey and the map we got was quite accurate, seemingly corresponding to the situation on site. However, when visiting the municipal office, we were not able to spot the TunaHAKI site on the map of the Msaranga area. We were shown a town plan where we simply could not locate the plot that had been bought and surveyed by the Foundation. The municipal director himself seemed puzzled and promised to send his assistant to the terrain over the weekend to verify the location.

When we came back on Monday, we found the site drawn on the city plan. Surprisingly, it did not correspond to the survey map that had been made for us. At this point, the Moshi municipal urban planning officer, Mr. Poteka, explained how the *Kihamba* system of the Chagga tribe works: The land around Mount Kilimanjaro belongs to the village elders of the Chagga, who have the right to treat it as their property. The TunaHAKI Foundation acquired the plot from a private person, who had legal ownership to the land. However, Mr. Poteka was unable to explain why the city planning system did not correspond to the *Kihamba* land ownership system. The inconsistency was settled by the officials' redrawing of the town plan. The road system and plots drawn on the map were moved to correspond to the actual situation on site, and the road to the site – which was funded by the TunaHAKI Foundation – was added to the town plan. Fortunately, this was doable as the area was still largely unbuilt.

In the KWIECO Shelter project, the local NGO had purchased the land. In the more densely built urban area there was less confusion about the boundaries of the site. However, we found the last corner stone in the middle of the road that passed in front of the site. The municipal engineer did not see a problem in having the road redone, as if this was a mundane issue in his area.

However confusing, the *Kihamba* land owning system of the Chagga tribe described above is respected by the local authorities, because it is understandable to the local community at large. We encounter our own western prejudices again when we think that there is no clarity, systems overlap and they

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476 TunH-1.

477 KWI-2.

are unpredictable. It might be useful to remember that we are dealing with traditions much older than colonial legislation, which by default, is superimposed on established social and governmental systems that suffered methodical attempts of eradication under the colonial regime.

### *Local Authorities and Building Permits*

*We ask him about fire safety, if he thinks we should have the window grills also openable, or is it enough to have the courtyard and 4 exits. The opening of the grills – if not really well made – might cause a security risk for the girls from outside.<sup>478</sup>*

*Godfrey calls Mr. Munisi (the municipal engineer)... I talk to him on the phone, explaining about the research, ventilation in the roof structure, Kidamali as the next, ongoing research project... After a long story I ask him to grant us permission to leave the house to the height of the ring beam, and see if it needs to be higher in Kidamali. He approves, stating that the research aspect and the clarification of the ventilation is justifying the exception.<sup>479</sup>*

*Building permit application: Orio was not there and no form could be given without his presence. Helena calls Poteka again, who just asks us to try to reach Orio. No success during the whole day.<sup>480</sup>*

*There is no form in Moshi for building permits (despite Poteka's view).<sup>481</sup>*

In addition to social, cultural, technical and sociological issues, architectural design includes a number of legislative aspects to be considered during the design and construction phase. Every country has its own national building code and legislation as a guiding framework, which is interpreted by the municipal authorities on a regional level. These interpretations may vary considerably from place to place, from municipality to municipality.

The regional authorities review the architectural design in order to verify that it meets the fire safety regulations with necessary emergency exits and other possible regional requirements for construction. Structural calculations are commonly to be presented for review as well before the building permit is granted. This is a common practice both in Finland and in all the African countries we have worked in. Local authorities are in charge of reviewing the design and structures of the construction, they provide the necessary building permits and perform the final inspection to verify that the requirements were actually adhered to.

The early stage of a conventional architectural design process includes an inquiry into the local legislative guidelines and their regional interpretations.

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478 Nya-3.

479 Nya-4.

480 KWI-5.

481 Ibid..

We have found it useful to keep the local authorities informed of the kind of community projects that we work with because it helps us to orientate and gain the necessary technical and legislative information to support our design work with communities. It also gives the authorities a preliminary understanding of the framework of the project. Generally, the reception has been quite positive about non-profit projects aiming at the public good. Consulting and keeping the authorities informed about the design process normally helps the building permit application to be accepted quickly, and with fewer changes to the design required.

Personal encounters matter; it makes a difference if the architect is personally there to explain the specific features of the design, especially if it includes a modification to the 'common practice' of low-cost construction in the area. In Moshi, Tanzania, for example, we had several meetings with the municipal director who was in charge of the building permits. His positive feedback and encouragement were helpful and paved the way for a smooth handling of the building permit application. It was not obvious, since the building code in Tanzania still follows the British system; we were handed over a print version from the 1960s which hadn't been updated since the colonial period.

The local interpretations of the building code depend largely on the individual officer in charge, and this can either facilitate or hamper the building process. Furthermore, the officials seem to shift positions frequently. If the person in charge has been changed since the last visit, one has to start the discussion all over again, with little guarantee that the previously discussed position would any longer apply. Often, it depends entirely upon the person in charge whether an innovative technical or architectural solution is accepted or not, regardless of its qualities. The interpretations of guidelines and regulations may differ from one official to another, and sometimes contradict even within the same office. Occasionally, they seem to be invented altogether, without legislative background in the building code. These moments are of course frustrating, and as an architect, one can only try to negotiate and compromise.

In the context of developing societies, the municipal authorities often lack the resources to perform the tasks that are their responsibility. For the Nyang'oro Hostel, which was a public service provided as NGO work, we had agreed that the municipality would provide the technical drawings for the building structure. These drawings were never made, nor was the agreed construction supervision performed, both of which partly contributed to the quality control of the construction.

#### **3.6.4.2 Governmental Collaboration**

The selected projects have benefitted from collaboration with ministries and embassies, both in Finland and in the countries in question. Sometimes the role of Finnish embassies has been crucially important, because they can act as mediators between several stakeholders on multiple levels.

## *Ministry Collaboration*

*Eva had a meeting with a representative of the Ministry for Environment. During the meeting discussion about any recycling centres in Moshi or Arusha where Tunahaki could dispose of their waste.<sup>482</sup>*

*Back to the Ministry of Lands etc.<sup>483</sup>... Minister Anna Tibaijuka was kind enough to see us in her office, mainly because I had a personal message to her from Ambassador Kari Karanko. She explained us that the land in Tanzania belongs to the municipalities and the villages...Mme Tibaijuka suggested we keep on pushing the Moshi municipality, and make this a big political issue... Her attitude was very supportive; one could tell the issues of Gender Based Violence victims are close to her.<sup>484</sup>*

In addition to connecting with local authorities, we have often sought for support and connections from governmental agencies such as ministries and embassies. On many occasions our projects have received governmental funding, thus the reporting duties have led us to keep the governmental agencies aware of and updated on the progress of the projects. In some cases, new opportunities have also opened up through discussions. The Finnish embassies have particularly appreciated being kept aware of the ongoing grass roots projects in their area.

Within Finland, we have collaborated with the Ministry for Foreign Affairs in developing both the funding and international visibility of our projects. The Ministry acknowledged the Women's Centre in Senegal as an example of engaging development collaboration that also includes sensible architectural design. The project was exhibited at the Ministry's pavilion at the World Urban Forum in Barcelona 2004, which added to its international visibility.

Finland has also supported NGOs by providing guidance and consultation through the umbrella organisations, KEPA and KEHYS, recently merged as FINGO<sup>485</sup>. FINGO has also had active country offices in some of the partner countries of Finnish development collaboration, through which they have supported local NGOs in their capacity building.

During the KWIECO Shelter House design process, with KWIECO's managing director Elizabeth Minde, we sought for support from Tanzanian ministries and governmental agencies. The project was seemingly embraced on all occasions as a highly appreciated pilot, yet actual financial support was not received from the government. Later on, we became inclined to think that this was for the better, since the challenge was met eventually in a way that secured complete independence of the project from any local or national political linkages. KWIECO's staff often defend victims of domestic abuse in a court of law, which makes the autonomy of the NGO of particular importance.

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482 TunH-2.

483 The Tanzanian Ministry of Lands, Housing and Human Settlements Development.

484 KWI-1.

485 "Fingo." <https://www.fingo.fi/>, accessed June 13, 2019.

## *Finnish embassies*

*The traditional diplomatic courier does not exist anymore, even the embassy has to buy carriage from DHL or other commercial companies. Therefore, they will not be able to send the material for the exhibition for us...We also discuss the overall political situation in Egypt, the ambassador shares the concern of the APE volunteers.*<sup>486</sup>

*Ambassador Pekka Hukka invited me to have a chat at the Finnish embassy in Mirambo Street... Finland is giving advice in taxation know-how to the Tanzanian government. This is one of the Embassy's programs. The *Pai-kallisyhteistyön määrärahat (PYM)*<sup>487</sup> are nowadays cut to half of what they were before the current government, which means fewer projects. Always a local partner as the applicant, no government agencies allowed.*<sup>488</sup>

The Finnish embassies have contributed considerably to our projects as well. In Egypt, the Finnish Embassy was the primary agent to set the collaboration ongoing between A.P.E. and Ukumbi, thus the Embassy's role as a facilitator in the early stages of the project was fundamental. The Ambassador at the time, Roberto Tanzi-Albi, was very encouraging and supportive. We were all equally disappointed when the project was halted in the aftermath of the revolution in 2011.

In Tanzania also, the Finnish Embassy offered their encouragement to the KWIECO Shelter House project on multiple occasions, helping us with funding applications and recommendations, as well as assisting in creating local networks.

### **3.6.4.3 Fundraising and Donations**

*Plot purchased by KWIECO... The money for the site was achieved through Kwieco's own fundraising (40000 USD), the rest of the money (85 000 USD) came from Norwegian ngo named JURK, supported by NORAD.*<sup>489</sup>

*Opening party could also possibly be a way of getting further funding if the right kind of persons are invited.*<sup>490</sup>

*I got the preliminary activity report for the year 2014. The money situation is quite bad with very little money on the activity account anymore.*<sup>491</sup>

*We discuss funding with Betty. She asks if we could provide funding for a few more months! I say we do not have any money. She looks disappointed. I underline that they really have to do anything in their capacity to fund raise.*<sup>492</sup>

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486 APE-4.

487 Fund for local cooperation.

488 Nya-3.

489 KWI-2.

490 KWI-10.

491 Ibid..

492 KWI-11.

Funding is a constant challenge for not-for-profit projects and fundraising is a continuous effort. Ukumbi, as an NGO, is eligible to apply for governmental funding, but the criteria and reporting systems for such are extremely rigorous.

### *Finnish Governmental Funding Instruments*

The goals and principles of Finland's development policy, as outlined by the Ministry for Foreign Affairs, are based on the 2030 Agenda for Sustainable Development, adopted within the UN in September 2015.<sup>493</sup> The official aim, written on the government platform, is to reach 0,7 % of the gross national product (GNP). The actual percentages and euros spent on development collaboration fluctuate from government to government, thus being prone to political interests. The governmental development cooperation funding mainly increased until 2016 at which time the then government decided to make significant cuts in the area. These movements throughout the years have also affected our projects.

The latest Development Policy Results Report 2018 presents the results of Finland's development policy and development cooperation that were reported between 2015 and 2018.<sup>494</sup> Produced by the Finnish Foreign Ministry, the reports states that civil society collaboration, that is, the many grassroots people-to-people NGO projects, can be very effective in poverty reduction and creating societal impact, thus complementing the policy work of the Ministry.<sup>495</sup> This is also considered in the developing of funding instruments for supporting the work of the NGOs.

Another major change since the early years of Finnish development collaboration funding is that building projects are funded only with reluctance. During the history of development cooperation too many building projects have ended up being used for different purposes than originally intended. In the late 1990s, when we acquired funding for the Women's Centre in Senegal from the Ministry for Foreign Affairs of Finland, the decision clearly articulated that construction was no longer supported. The funding for the project was to be directed to the activities of the women groups and it also allowed us to pay salaries for local team members working with the construction. Materials and the actual construction costs we had to acquire elsewhere. In this case, we received a considerable amount of local material donations and also private funding for construction.

For the KWIECO Shelter House project, Ukumbi NGO received substantial support from the Ministry. This time, due to the evidence provided by the Women's Centre in Senegal, the Ministry was sufficiently convinced that we were able to handle a construction project and keep it focused on the original target. However, the acquisition of land was not included. This was to be done

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493 Ministry for Foreign Affairs of Finland: "Goals and Principles of Finland's Development Policy", accessed July 23, 2020.

494 Ministry for Foreign Affairs, 2018. Summary of Finland's Development Policy Results Report 2018, available in English: <https://um.fi/development-cooperation-produces-results>

495 Ibid.:74.



by the local partner, for reasons of solid ownership and engagement.

Monitoring and reporting systems of the Finnish governmental funding is rigorous and thorough, and requires skills and expertise. The purpose of the funding is to support and strengthen the capacity of the southern partner, not the Finnish NGO per se, but the Finnish NGO is still responsible for the assessment and reporting. However, the mid-term and final reports of the funding period require strong collaboration with the partnering NGO or stakeholder – which is one of the factors setting high criteria for the selection of a local partner. As mentioned in the previous sections, the role and capacity of the local partner is fundamental in rooting the project to the local culture and community, and in the monitoring and reporting of the funding during and after the project.

### *Foundations and Private Donors*

*L'association Tekniska Föreningen (TF) i Finland, représentée par SH, JR et HS, a travaillé avec des groupements de femmes à Rufisque dès l'année 1995... L'association TF vous demand de participer dans ce projet de volontaire pour ce Foyer des Femmes à Rufisque Nord. Si vous n'avez pas le moyens de participer dans le financement nous seront aussi très heureuses d'avoir des conseils...*<sup>496</sup>

The Finnish governmental funding for not-for-profit projects requires a minimum of 15% self-financing from the Finnish NGO. This is a challenge, since the Finnish tax system does not allow deductions for donations to small NGOs. Our work has had few private donors, partly due to this governmental system of not providing the option for deductions. The system has long political roots: private money has been directed to the government through taxation, while the government has decided on the funding instruments and selected the agents to receive support for development work. However, there are a few foundations in Finland which have repeatedly supported our work, such as the Finnish Cultural Foundation, Kone Foundation and Art Promotion Centre Finland. The sums have been modest but enough to constitute a minimum for organising our work.

#### **3.6.4.4 Transparency in Politics**

In many African countries, corruption is deeply rooted in the societal structures. Some governments have adopted an open and systematic approach to getting rid of corruption, which has also made it easier for foreigners to address the issue when discussing with the authorities.

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<sup>496</sup> WomC-5.

## *Discussing Corruption*

*He says this is the first project that he is involved in where he has not had to be involved in corruption.<sup>497</sup>*

*Discussions about the bad corruption situation in Tanzania and Prajesh told us he had tried to explain to Paul from Rocktronic about how Ukumbi works. He didn't understand it at all, Prajesh said. Why do they do such a thing if they don't get rich of it?<sup>498</sup>*

Corruption is a worldwide problem that can be encountered anywhere. It occurs both in developing societies and in so-called established democracies, in which the forms may be found to be more indirect. Nevertheless, it is a problem that hinders the equal and sustainable development of any society.

With growing global awareness of the negative effects of corruption, many African countries have initiated large national projects to fight it. In Tanzania, for example, the national anti-corruption campaign has spread to the most distant schools in rural areas and is visibly and openly referred to in education. It is a hopeful scene and helps in bringing the issue further into our work as well.<sup>499</sup>

In our projects, to avoid corruption we have chosen the strategy of systematic openness. We have deliberately used our position as 'clumsy foreigners', to inquire bluntly and frankly about corruption in the society in question, as well as the tasks, responsibilities and reimbursements concerning the project at hand – preferably in meetings with many participants present. Raising these questions in front of several people at an early stage of the project sets a certain mind-set and social pressure and creates a shared awareness that in this particular project corruption is not an option. In this regard, it helps to be a foreigner working with projects of public interest. We can at least pretend that we are not aware of such local customs that may include corruption in one format or another. As *mzungu* architects we are also in a better position to raise the issue in general discussion, due to our 'international standing'. Furthermore, the reporting requirements of any funding we receive makes it practically impossible to be a party to any sort of corrupt procedure.

In case of local donations, openness is required. Local donations, be they funds or materials, are quite acceptable as long as they are free from political connections and do not create inappropriate partial linkages.

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497 KWI-11.

498 KWI-12.

499 <https://www.u4.no/publications/national-anti-corruption-strategy-in-tanzania>

### *Caution in Agreements*

*Mayor promises to pay 20% of the material costs. A project account to be established for the city, mayor responsible with accountant. Later suggested by authorities: city to pay bills. Remains unclear.<sup>500</sup>*

In Senegal, the city authorities in Rufisque provided sand for the construction of the Women's Centre and promised plenty of other materials, with the proviso that we would sign the 'agreements' that were presented to us. We systematically refused to sign anything that could give the authorities even the remote option of claiming ownership of the project afterwards. This has helped to keep the Women's Centre independent and within the possession of the women's groups to this day.

### *Awareness of Social Inequality*

*Dinner with 3 persons from International Planned Parenthood Federation, Africa region. They seemed to have absolutely no idea of the conditions of the poor.<sup>501</sup>*

Our collaborations with low-resource communities have provided us with a perspective on the living conditions of the local poor, at least in terms of the built environment. During these projects, we have occasionally encountered individuals of local origin from higher levels of politics and society, who seem to have no idea of the conditions of the low-resource communities we are working with – either globally or in their own country. From the perspective of our work with disadvantaged communities, it is always striking to discover the degree to which many forms of segregation still affect certain societies, and the degree to which the multiple problems of the larger population remain invisible to the wealthy sector. We have often used our humanitarian approach as a discussion point when meeting people with constricted awareness of the conditions of the poor. We stress that the reason we came there was not tourism, but rather collaboration with underprivileged communities. In some cases, at least, this approach has served to create a deeper understanding among our interlocutors.

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500 WomC-4.

501 WomC-3.

### 3.6.4.5 Feedback and Response

*Nyang'oro hostel was opened yesterday, huge festival! Excitement, promises from the Regional Commissioner and the Minister for Lands, Housing and Human Development...They were especially impressed that such design (fire safety, spacious study areas, laundry and safe sanitation, pleasant atmosphere) was done with such small budget.*

*Despite Ukumbi's disappointment with CCI, the community has embraced the building. Now the government officials are excited too, and this might really mean scaling up. The minister had said, that this is very beautiful, but two girls need to sleep in one bed. No surprise to any. I made a point about fire safety.<sup>502</sup>*

Participatory design projects in low-resource settings rely on community feedback and iteration of the design. The questions of responsibility and sensitivity become highlighted, as the architect seeks to balance between contradictory needs and aspirations. According to Blomberg and Karasti, participatory design has a few established guiding principles, such as a) mutual respect for different knowledge, b) the need to create opportunities to learn about the other's domain of knowledge, c) a commitment to joint negotiation of project goals, and d) a dedication to develop tools and processes to facilitate participation.<sup>503</sup>

#### *Responsibility in Design*

*Betty thanks Ukumbi for the patience and persistence and for the fact that we really are putting our hearts into this project.<sup>504</sup>*

*The matron was complaining about everything: the bamboo doors, the banana leaf roof, the Asian toilets, "where is the TV-room?", that the big furniture doesn't fit into the rooms etc.<sup>505</sup>*

Architectural design is an iterative process, in which critical opinions and feedback from stakeholders are evaluated, the design adjusted accordingly and then evaluated and modified again. At its best, the result combines the sometimes even contradictory needs and aspirations, to find the best possible solution to the task. When working with low-resource communities, the limited budget usually sets a clear framework for the design. Sensibility to the existing conditions allows the designer to consider architectural quality, health, safety and sanitation with dignity – without exceeding the community's assumption of what is considered appropriate, suitable and correct. To avoid negative connotations of extravagance, the leap from the daily living conditions of the community's residents must not be too high. However, the line is sometimes very thin. In Senegal, the women absolutely refused to leave

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502 Nya-5.

503 Blomberg and Karasti, 2012:89.

504 KWI-8.

505 KWI-12.



From a smoky cooking hut...  
PHOTO SAIJA HOLLMÉN

the Women's Centre unpainted, since they wanted it to represent the elegance of a Senegalese woman. On the other hand, they accepted that we had used recycled materials because we presented them in an exquisite and attractive manner. The building was elegant, without being luxurious, which made it easy to become accepted and cherished by the women.

In our projects, the community or NGO owning the project is not a paying customer, even if they contribute to the fundraising. This brings along a double responsibility: not only is the architect the *primus motor* of the project, but is also responsible for the community that their initiative and the needs articulated are met in the best possible way. In a sense the architect both supervises the work of the team and is accountable to the community. The challenge in these cases is that the community would not necessarily speak up; getting feedback in an indirect way is sometimes the only option to find out real impressions and opinions.

### *Small Improvements Making a Difference*

*To my great surprise, the kitchen was made according to the drawings! Although very rough and robust, it was the exact low-tech improvement needed, compared to the smoky sheds we saw earlier. Very well ventilated, smoke taken to the chimney. Cannot get more low tech, but proportions work well! Everyone else have also been really pleased with it.*<sup>506</sup>

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<sup>506</sup> Nya-5.





...to ventilated kitchen facilities in Nyang'oro.  
PHOTO ONASTORIES

When working with low-resource communities, the budget is usually quite restricted. This can be a positive challenge, since it forces the architect to come up with solutions that show that money alone does not guarantee better environmental qualities, rather than intelligent and dignified design. It allows the architect to present examples of inexpensive ways of creating small improvements that make a difference.

A small-scale improvement in the built environment can eventually have a big impact upon the living conditions of the community. For example, in rural Iringa, where the NGO Lyra in Africa is building hostels for girls together with Ukumbi NGO, the commonly used kitchen facility is a shed where the women cook food on an open fire without chimneys. The use of firewood is inefficient and some of the cooking ladies are clearly suffering from severe respiratory problems. For the Nyang'oro School we designed a small ventilated kitchen, as an upgrade of the smoky shed, that had energy-saving stoves with proper chimneys and slightly improved facilities for cooking and serving the food. For our collaborators it was important to keep the design simple and the modifications on a proper scale – yet, even these small improvements made a difference for the local community. Consideration of basic issues, starting with health, can sometimes be quite simple and inexpensive.

An architect looks at the finished work with critical eyes. However, a mistake in the building that for us may seem very disturbing may not be an issue for the local community. In Nyang'oro Hostel, the response of the community, the girls especially, was utterly enthusiastic. Although the building was





Women's Centre opening ceremony.  
PHOTO JUHA ILONEN

erected with a very low budget, the simple design considered the fundamental architectural elements: spatial hierarchy, flow of air and people, proper sanitation, open and closed areas, directions, safety and privacy. Despite the errors in the implementation of the design, these basic elements were instrumental in both a functional and perceptual, aesthetic sense in allowing the building to become something special and meaningful for the girls.

### *Leaving the Scene*

In Senegal, the opening ceremony of the Women's Centre was quite an event. It was extremely important for the women, who had not had much opportunity in their lives before, to celebrate a building that was tailor-made for them and brought with it a variety of possibilities for improvements in their daily lives. The event was hosted by the mayor and the whole community was invited. The celebration included food, music, dance and speeches praising the mayor and everyone who had contributed. Our presence at the event didn't seem particularly interesting to anyone: it was mentioned in an aside how we had assisted a little, but in the end, the whole endeavour had become the property of the community. We could not have hoped for a better outcome.

A similar atmosphere prevailed at the KWIECO Shelter House opening ceremony, which featured the Finnish Ambassador to Tanzania, Sinikka Antila. The opening was a significant event for the local community and the presence of the Ambassador considerably lifted the prestige and public esteem



Women's Centre in Rufisque, Senegal.  
PHOTO JUHA ILONEN

of the project – far more than the unknown Finnish architects who were behind the whole project. For us, this was a positive sign that the project was taking root in the local community, meaning that our presence was no longer needed and quickly ceased to be a focal issue.

In our work, we aim at rendering ourselves eventually unnecessary to the specific scheme. When the building project is completed and the community has taken over, the job of the architect is done. However, we do follow up to see how the building resists time and how the impact of the project in the community develops in the long term, in order to better understand how we can improve our ways of working.

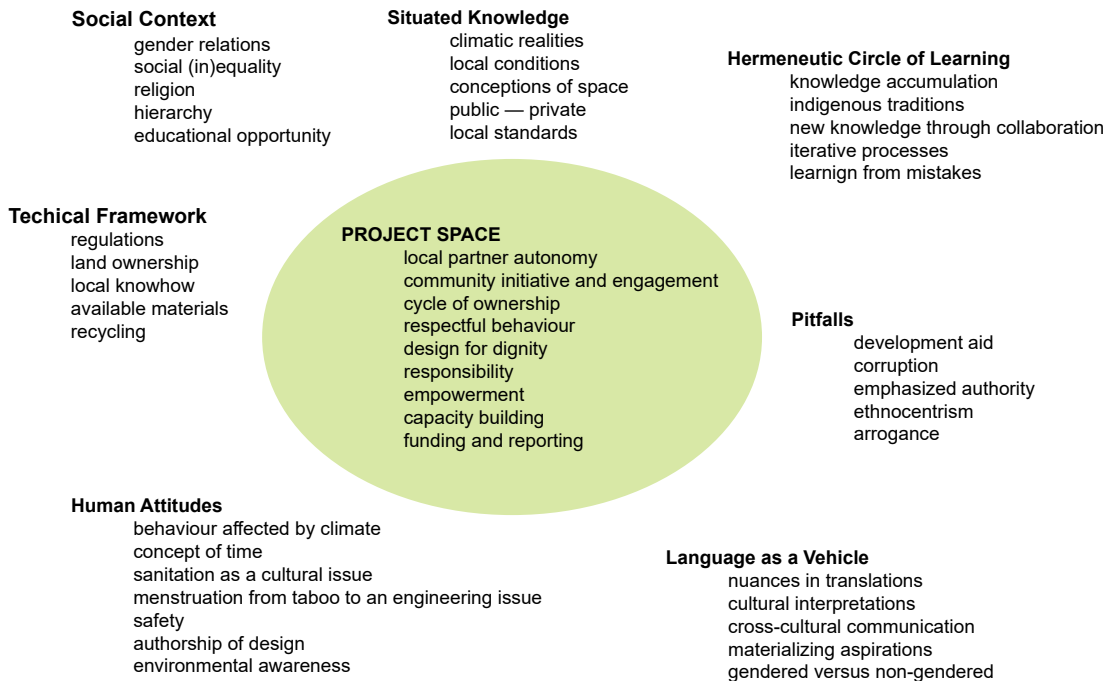
The Women's Centre in Senegal is an encouraging example of a project that a community owned and continues to own. In 2016, 15 years after the completion of the house, we produced a film for our exhibition at the Venice Architecture Biennale featuring interviews with the women, where they described the various ways the house had given them opportunities in life, both economic and social, that they would otherwise not have had. The empowerment and augmented capacity of these women to handle the everyday hardships of their lives is the key to our motivation. With all these learnings as our individual and collective 'takeaway', we have been rewarded with the awareness that lives have been transformed through the buildings we have helped to create.

### 3.7 DISTILLED PERSPECTIVES

Defining the scope and framework of an architectural project in a low-resource community is a complex task, affected by a multiplicity of issues discussed in the previous sections. The complexity and interdependency of the issues related to such practice suggest diverse ways of interpretation. The compilation and notions presented here in Section 3.7 are a visual and contextual illustration that summarises the narratives arising from the data analysis.

As discussed earlier, a set of data can be interpreted using a variety of methods. Mixing different methods, or triangulation, is a way of cross-examination that offer other perspectives for interpreting the data.<sup>507</sup> It does not aim at rigidly validating the research findings, but instead it aims at gaining a more comprehensive understanding of the phenomena.<sup>508</sup> The following compilation is one possible alternative interpretation of the narratives stemming from the hermeneutic circle.

#### Architecture as a socio-cultural construction



<sup>507</sup> Thurmond, 2001.

<sup>508</sup> Ibid..

### *Framing a Project*

The categories described above as well as the narratives represent one way of presenting the accumulated knowledge and experienced realities in the context of architectural design, based on the collected ethnographic data. However, the humanistic approach and multiplicity of perspectives allows for various ways of framing the issues. Figure 7 presents yet another possible compilation of connections, and a more visual and condensed perspective for the categorising and grouping of the various subjects discussed in this chapter.

### *Project Space*

The 'Project Space' represents the actual process of the building design project. It collects those central and fundamental components that are necessary in order to launch and sustain an architectural project in the context of a low-resource community. Collaboration with an autonomous local partner with the capacity to fundraise and sustain the activities once the project is completed is a core issue. The partner is also a key to community engagement and communicating the project initiative identified within the community. The community's engagement in the design process, construction and sustained activities allows for the creation of a feeling of shared ownership and helps to root the project in the community.

Respectful behaviour on the part of the architect is a prerequisite to any successful communication and the transfer of a community's aspirations into built reality. Dignified and sensitive design that considers the local features is a vehicle for strengthening the self-esteem of an underprivileged community. Empowerment grows through capacity building.

The issues surrounding the Project Space are the cultural, sociological and technical variables to be considered, especially when working as an architect in a cultural context other than one's own.

### *Situated Knowledge*

An essential prerequisite for a sustainable project is that the architect understands the local realities of climatic conditions and other local features that affect building design and construction. Studying the conception and hierarchies of spaces, how people in a certain cultural context organise their habitat and consider spatial qualities, offers relevant information to ground and justify choices in architectural design. The concept of public space is situated as well, and is not always the same. Sensitivity towards local standards makes it possible to find the balance in what is enough to make an improvement, but not too much to exceed the general living standards of a household in the community.

### *Social context*

The cultural and socio-political climate of a society and a particular community includes features that are worth considered in the architectural design. Gender relations and equality in the society affect behaviour, which is often determined by religious customs and social hierarchies and constitute the basis for structuring architectural design. There exists an educational opportunity in each collaborative project with low-resource communities that is useful to exploit.

### *Technical Framework*

Every country has its own building codes and governmental regulations that control the design and construction of cities and buildings. Local interpretations of regulations may vary considerably, hence it is useful to consult local authorities at the earliest convenient occasion. Securing land ownership and appreciating the existing local knowhow are ways of enhancing the sustainability of the project, because local experts often possess invaluable information on human networks and possibilities at the grassroot level. They are also the best people to consult concerning available local materials and recycling opportunities.

### *Human Attitudes*

This section considers culturally related issues that are scattered, rather than being a consistent theme. They are connected to human attitudes and behaviour and vary from one cultural context to another.

We rarely connect our own behavioural patterns with climate and the built environment. However, it is important to consider how climate affects the way people occupy and move between in- and outdoor spaces and how strictly these are separated. This is directly reflected in the architectural design of cities and buildings.

The concept of time also varies considerably from one culture to another, a simple indication being that in warm climate zones people are less likely to be seen hurrying than in colder climates.

Sanitation is but an engineering issue, but also very strongly a cultural consideration. It requires a delicate attitude, but also determination to design properly functioning, dignified sanitation that offers adequate facilities for personal hygiene and privacy. Menstruation, in spite of it affecting nearly half of the population, is still too often considered to be a taboo, whereas a straightforward engineering attitude would be beneficial to reduce the stigma.

Safety is both an absolute and a cultural issue. Building regulations consider the fire safety of materials and exit routes, but the threat posed by unwanted outside intruders is situated and conceived of differently depending on cultural and local contexts.

For an architect who works with low-resource communities, it is helpful to



internalise that the community does not necessarily respect the authorship of design to the same extent that the western world values it. In cultures where tradition dictates much of the premises of construction, the best design fits the environment with self-evidence. Facilitating community engagement enables the community to take over and allows the design to become an integral part of the community's reality without the designer's self-assertion.

Environmental protection is the most crucial question of our time. Awareness of environmental issues and sustainability must be considered in every project, bearing in mind educational opportunities and our commonly shared responsibility for the wellbeing of the planet.

### *Language as a Vehicle*

Shifting cultural contexts usually means that translations become essential tools in communication. Nuanced discussions and hidden meanings of indigenous languages spoken by many low-resource communities translate poorly, even with the help of a skilled interpreter. A translator who is mediating the direct communication between the architect and the informants can sometimes be tempted to communicate assumptions and interpretations instead of translations. The risk of lost nuances, or a message misinterpreted, is high.

Language is our primary tool for communicating aspirations, in order for them to become materialised in built form. Therefore, it is useful to identify and occupy the space between cultural interpretations and translations of languages. Cross-cultural communication benefits from other tools in addition to spoken language, such as drawings and models to communicate aspirations.

Languages contribute to gender and social relations, as some bear gendered meanings in their structures, while others are gender neutral. These subtleties affect our behaviour in ways we are rarely conscious of.

### *Pitfalls*

Development Aid is an outdated concept, which created an imbalance of dependence and passive mind-sets. More than aid, people living in low-resource communities need dignified solutions to improve their living conditions in a way that helps to enable and raise their self-esteem.

Corruption in different forms is found everywhere. In collaborative projects, thorough transparency is the best way to fight corruption and promote equal and just processes.

In the end, the attitude of the architect is what facilitates a sustainable development project. Instead of seeking authority, it is collaboration and the avoidance of ethnocentric indiscretion that are the methods of enabling community engagement. In community projects, there is no room for a designer's arrogance or self-assertion. Engagement and participation stem from encounters between individuals who respect and appreciate each other on an equal basis.



### *Hermeneutic Circle of Learning*

Every project is a learning opportunity that contributes to knowledge accumulation. Our understanding grows deeper through our interpretations in a hermeneutic circle, which grows incrementally from project to project, from an individual part to a whole and back. Indigenous building traditions are very informative regarding climatic adaptation and spatial hierarchies, and to understand how local communities have traditionally organised their habitat. This information is useful, even when interpreted into more contemporary architectural languages. New interpretations emerge through collaboration in an iterative process, in which learning from mistakes leads to improved solutions.

## 3.8 CONCLUDING REMARKS

In Chapter 3, *Cross-Cultural Perspectives in Architectural Design Practice*, I have introduced my main *research corpus*: an (auto)ethnographic collection of travel logbooks, co-produced with my colleagues on our field trips, during the design and construction of five architectural projects with low-resource communities in Africa.

The data stemming from the architectural projects has been analysed using hermeneutic methodologies, by initiating a hermeneutic circle of interpretation, in which the foreknowledge of the author deepens into a wider understanding as the process proceeds. The analysis of the written data aims at revealing ‘*the cultural features one needs to acknowledge when working in a cultural context other than one’s own.*’

The main categories identified through thematic coding of the logbooks – 34 of them altogether – are related to *Context, Culture, Knowledge and Technology* and *Society*. Each of the main categories are divided to subcategories and illuminated by direct quotations from the field trip logbooks.

Section 3.7 outlines an alternative exposition of the data, as there always exists a multiplicity of possible interpretations. Presenting ‘architecture as a socio-cultural construction’, the section presents another possible compilation of connections, and a more visual and condensed perspective on categorising and grouping of the various subjects discussed in this chapter.

Chapter 3 concludes PART I of my thesis, *Global Challenges and Cultural Locality*, which concentrated around the questions ‘*What is the role of architecture and architects in the context of global humanitarian challenges?*’ and ‘*What are the cultural features one needs to acknowledge when working in a cultural context other than one’s own?*’

These research questions are connected through the discussion on humanitarian architecture, which dominated Chapter 2 of this thesis. Although neither my own practice in low-resource communities, nor the empirical material presented and analysed in this thesis, have been connected to immediate conditions of urgency (the most obvious connotation of the term ‘humanitarian architecture’) rather than long-term societal development, the relevance of the

combination of these research questions lies in the issue of *cultural locality*.

Emergencies affect peoples and communities in all cultural environments. In a situation of devastation, people become highly vulnerable, their reactions vary, and most often their responses are related to their indigenous cultural backgrounds. Their embodied habitus,<sup>509</sup> their tacit ways of acting and seeing the world, becomes highlighted in an emergency. As discussed in Section 2.4.6 *Cultural Measures*, culture profoundly shapes us as individuals, as well as our communities and societies. In order for humanitarian practitioners to orient themselves towards the disaster-affected people with respect and dignity, it can justifiably be argued that it is important to understand how their indigenous culture may affect their ways of responding and orienting in the situation, their indigenous ways of organising their habitat according to their cultural backgrounds, as well as their capacities to participate in the process of recovery.

Responding to emergency conditions as a humanitarian practitioner requires solid skills and professionalism.<sup>510</sup> For someone concerned with architectural education, however, the question arises: How do we teach and learn such skills when ‘on-the-job training’ is out of question? One approach is to rely on learning opportunities situated in less urgent conditions, when the lives of people are not in immediate danger, and when there is more time to reflect on issues such as cultural backgrounds, climatic conditions, societal relations and so on – in other words, the issues I have presented in this thesis.<sup>511</sup> Based on my research corpus, I have reflected on issues of cultural locality in the framework of designing the built environment in low-resource settings. There exists an educational opportunity in each collaborative project with low-resource communities,<sup>512</sup> which is also useful to exploit in an academic pedagogical setting.

In order to acquire even the basic skills of encountering different cultural situations, peoples and communities, and to understand the relevance of their cultural environment in connection to their built environment, experiences of projects such as the ones discussed in this thesis may provide useful lessons. Cultural locality is certainly an aspect worth considering in humanitarian emergencies and is also one that becomes even more prominent in the following phases of societal development.

In PART II, *Learning and Higher Education*, I will discuss pedagogies in architecture and interdisciplinary higher education, and their connections to cultural locality and humanitarian challenges, reflecting on the research questions ‘*What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?*’ and ‘*What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?*’

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509 See Section 2.4.6.

510 See quote from Jan Egeland in Section 2.3.1: “Because if you’re not a professional in this game, you have no right to descend on someone in their moment of crisis and do on-the-job training.”

511 See Section 3.6.

512 See Section 3.7 Social context





Fabrics from East Africa.  
PHOTO ANNE KINNUNEN





# PART II

LEARNING AND  
HIGHER EDUCATION

## Chapter 4

# ARCHITECTURAL EDUCATION AND THEORIES OF LEARNING

## 4.1 INTRODUCTION

PART I of my thesis explored issues of cultural locality, framed by critical regionalism, humanitarian architecture and my own practice in the context of African low-resource communities. I presented my *research corpus*, which consists of field trip logbooks by Hollmén Reuter Sandman Architects, co-produced during the design and construction of five architectural projects in Africa from 1996 to 2018. This ethnographic data was interpreted using hermeneutic text analysis to initiate an iterative process of a hermeneutic circle for creating a deepening understanding. The text was analysed through thematic categorisation and grouping of recurring issues, which were reflected on in a narrative format. Reflections on the categorised themes were summarised in ‘distilled perspectives’, to provide an alternative perspective on the issue of cultural locality.

In PART I, I discussed the research questions ‘*What is the role of architecture and architects in the context of global humanitarian challenges?*’ and ‘*What are the cultural features one needs to acknowledge when working in a cultural context other than one’s own?*’ This enabled me to analyse and reflect on my work as a practising architect and how it evolved to become sensitive to cultural locality in the context of low-resource communities.

When looking back, my own path in the humanitarian field now seems consistent, whereas during the years, the projects came and went – some took wing, and some did not. Those described in this research only represent the ones that we actually ended up working on; there were many others that never took off. The reasons for this are many. First, as noted in Section 1.4.2, there were no established funding mechanisms to proceed with projects that aimed at community enablement through participation and architectural quality. Secondly, as discussed in Chapter 2<sup>513</sup>, there were, and still are no relevant career paths for young architects to pursue a professional career in the humanitarian field.

One can argue that this is both a reason for and a consequence of the lack of adequate architectural education that would embrace large socio-political and economic issues and consider cultural localities in the framework of global sustainability and societal development as a relevant thread of education for sustained societal impact. If architects are not educated to recognise their capacity in the field, they are unlikely to find themselves working on humanitarian projects. On the other hand, if the actors in the field do not encounter or recognise the capacity of architects, graduates will not be employed in their projects.

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513 See Section 2.3.1.



When I became a university teacher at HUT, later Aalto University, my attention increasingly gravitated towards the possibilities of a contemporary architectural education that would deepen cultural understanding and the means for students to widen their perspectives on global development issues. I have recounted some of the background of this work in the introduction to this thesis<sup>514</sup>. My interest in pedagogical development stems from this urge to understand how we can improve and widen the education of architects in directions that would have cultural, societal, political and economic relevance on a global scale.

This is also the reason why interdisciplinary pedagogy and creative thinking have a major role in my thesis. It is not an option to remain in the limited sphere of the discipline of architecture alone if we are to strive for relevant societal impact. Nor can we rely on the traditional ways of working without considering the capacities of the human mind for creative thinking and striving for innovative connections.

In PART II of the thesis, I will address the research questions ‘*What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?*’ and ‘*What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?*’ Understanding these questions first requires an overview of the most relevant learning theories related to university pedagogy. This is provided in Chapter 4, which concentrates on the theories relevant to educating self-directed, autonomous thinkers. These theories are explained and referred to in connection to the pedagogical entities discussed later in Chapters 6 and 7.

Chapter 5 includes reflections on interdisciplinary pedagogies and creativity, since the way forward for university education necessarily involves new and unlimited thinking – accessible through the creative processes of the mind. Learning how to make use and exploit creative human capacity is one of the greatest challenges of future higher education. It is also inherently connected to the issues of global sustainability and interdisciplinary problem solving, due to the mere scale and complexity of our contemporary challenges.

In Chapter 6, I reflect on the perspectives of the Global South in university education, which also connects to the discussions on Transformative Learning Theory and Problem Based Learning<sup>515</sup>, as they are relevant in the context of educational entities which are subject to global sustainability and societal development.

The discussions in PART I and PART II frame the concluding research question ‘*How are cross-cultural design practices informing the curriculum design of an interdisciplinary architectural programme aimed at addressing global humanitarian challenges?*’ from their respective directions. Finally, in Chapter 7, I present my conclusions and connectivity of the above to future directions and developments of the discipline of architecture. I address the overarching research question ‘*What happens in the interface of architecture,*

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514 See Section 1.4.4.

515 See Section 4.4.

*cultures and disciplines from the point of view of university pedagogy?’ with the aim ‘to develop a pedagogical framework for interdisciplinary architectural education, that would respond to global humanitarian challenges in a variety of cultural contexts.’*

#### 4.1.1 Research Methods

The research methods used in PART II of this thesis include a literature review of theories of learning and contemporary adult education, discussed in Chapter 4. The literature review frames the overall configuration of the reflections on interdisciplinary education on issues related to global sustainability and its development at Aalto University. It informs the discussion on pedagogical developments for interdisciplinary higher education in the field of interdisciplinary humanitarian architecture, addressed in Chapters 5 and 6.

Chapter 6 also presents a web survey that was conducted among approximately 200 alumni of the *Interplay of Cultures* programme. The replies are discussed analytically according to the thematic representation of the issues revealed, following the series of questions outlined in the survey.

## 4.2 PEDAGOGY IN ARCHITECTURAL EDUCATION

### 4.2.1 Role of Pedagogy in Finnish Architectural Education

The Finnish architectural tradition – as well as education – has solid roots in practice. This is not uncommon among architectural schools in the international field. Sari Puustinen argues that in Finland, especially at Helsinki University of Technology, architectural education often aimed at producing the workforce for architectural firms, which led the education to be strongly affected by economic circumstances.<sup>516</sup> Until recently, most of the architecture professors at Helsinki University of Technology were practising architects, for whom the success of their practice was seen as qualification for a teaching position in the university. Among university disciplines this was not exceptional, but given the strong practice-based tradition of Finnish architecture, it was probably even more striking compared to other faculties at the time. Research – writing and publishing in journals – was exceptional and by no means considered obligatory for a professor. Practice and practice-based excellence mattered most.

The tradition so far had relied on the individual teacher’s or professor’s capacity to transfer the knowledge gained in practice into teaching methods, didactics and philosophies that would give the architects-to-be with a sufficient knowledge base to tackle the challenges of their future profession. While some of them were highly successful in their pedagogical approach, on some occasions, however, the lack of pedagogical consistency resulted in indefinable and vague expressions of so-called ‘architectural truths’ in studio critiques.

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<sup>516</sup> Puustinen, 2006:202.

Knowledge – as possessed by the professor – was transmitted to students in a process of sometimes vague judgement, with little justification or explicit argumentation. Quite often it appeared, as Anu Yanar poignantly states, that “to be an architect – a reflective professional practitioner – does not as such provide adequate understanding and means to be a reflective pedagogue when one is acting as a studio teacher.”<sup>517</sup>

Until the 2010s, architecture education was more adaptive than transformative, concentrating on enculturation, rather than posing questions of philosophical, ontological or epistemological nature. As Yanar puts it: “The general aim of studio pedagogy is to turn novices into professional experts, who possess not only the required knowledge and skills, but also the tacit norms of architectural and professional culture.”<sup>518</sup>

Only recently – that is to say, during the last 10 or 15 years – have pedagogy and teaching methodologies gradually become more available to university teachers of architecture. A major improvement took place after the formation of Aalto University in 2010.<sup>519</sup> Pedagogical training for teachers is now considered a serious matter, and the offering of such courses is growing across the university. The increasing interest in pedagogy promotes disciplinary self-reflection, which is unquestionably necessary in the face of the growing pressure of contemporary global challenges and the expansion of external requirements for the profession.

#### 4.2.2 An Experiment in Creative Educational Development at Aalto University

The formation of Aalto University, and subsequently the Aalto School of Arts, Design and Architecture, also opened new opportunities for pedagogical training. Between March 2012 and January 2015, an experimental three-year training programme in university pedagogy was organised by Aalto University’s Unit for Strategic Support for Research and Pedagogy<sup>520</sup>, with the Department of Art at the School of Arts, Design and Architecture. The responsible teacher of the programme was the Educational Developer, artist, and Teacher-Educator Kari Nuutinen from the support unit, while Teija Löytönen, then Academy Research Fellow at Aalto University, acted as a teacher-facilitator and scholar in higher arts education, representing the Department of Art.<sup>521</sup>

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517 Yanar, 1999:181. Yanar’s dissertation, “The Silenced Complexity of Architectural Design Studio Tradition. Pedagogy, epistemology and the question of power”, shrewdly observes and analyses the tacit dimensions of architectural education traditions.

518 Ibid.:3.

519 Aalto University was created in 2010 by merging three established universities: Helsinki University of Technology (HUT), Helsinki School of Economics (HSE), and the University of Art and Design Helsinki (Uiah). When Aalto University School of Arts, Design and Architecture was created in 2012, it combined the former departments of Uiah and the Department of Architecture, thus separating the Department of Architecture from the Faculty of Engineering. See 1.4.3.

520 Syrjäkari and Hemminki, 2014.

521 Löytönen, 2015.

Löytönen describes how concerns have been raised about the use of only a few theoretical concepts in higher education.<sup>522</sup> Contemporary – and commonly accepted – ‘discipline blind’ approaches to learning and pedagogy may lead to the harmonisation of teaching and learning practices.<sup>523</sup>

Instead of approaching pedagogy as a generic field, our experiential programme took a different approach. Nuutinen and Löytönen took the position to “question educational certainties and expanding difference and creation in educational development.”<sup>524</sup> We were altogether 18 university teachers, lecturers and professors from all disciplines and departments of Aalto School of Arts, Design and Architecture, namely Architecture, Design, Film and Scenography, Art Education and Curation, and Media. The programme turned into a collaborative exploration and journey into pedagogies in the fields of arts, design and architecture, which allowed us to ponder on the spaces within and in-between our own teaching.

The unique nature of the programme was framed by Gilles Deleuze’s philosophy of difference<sup>525</sup>, “which allows for a movement beyond the boundaries that (might) limit or bind developmental efforts in pedagogy.”<sup>526</sup> Löytönen argues that “understanding difference from a Deleuzian perspective disrupts and unsettles categories of representation and allows us to search for fluidity, nuanced diversity, and potentialities in disciplines and (their) pedagogies<sup>527</sup>, as well as in educational development.”<sup>528</sup>

Deleuze’s concept of real difference is a matter of evolving and continuing to evolve beyond predetermined boundaries.<sup>529</sup> For Deleuze, difference is a “continuum and a multiplicity, and in a constant state of becoming or differentiation: ‘things’ becoming different in themselves.”<sup>530</sup> Löytönen asserts that “Following these lines of thinking, the disciplines and their pedagogies are not closed or established categories but open and porous, formed by the constant creative force of becoming in the connections and relations that each of them will have in their specific environments, such as the arts.”<sup>531</sup>

This pedagogical exploration was framed by three approaches: 1) reflection on pedagogical issues from different perspectives, 2) exchanging and creating art work in pairs, and 3) engaging in a collaborative inquiry process into higher arts education.<sup>532</sup> The programme was organised around intensive two-day seminars, 20 in total, during which the joint reflection and discussions took place, as well as individual tasks related to chosen themes around the

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522 Löytönen, 2017:232.

523 Naskali, 2007.

524 Löytönen, 2017:232.

525 Deleuze, 1994.

526 Löytönen, 2017:232.

527 See also Wolfgang, 2013.

528 Löytönen, 2017:233.

529 Williams, 2003.

530 Löytönen, 2017:234.

531 Ibid..

532 Ibid.:235.

participants' pedagogical interests. Nuutinen and Löytönen did not introduce any specific conceptual or theoretical framework(s) on how to understand pedagogy. Instead of framing pedagogical knowledge through predefined (educational) lenses, we "proceeded through in-between-ness, through searching for potential theoretical or conceptual or practical frameworks to make sense of higher arts education within the particular context of arts, design, and architecture at Aalto University."<sup>533</sup> This approach called for rhizomatic thinking, which "has no beginning or end; it is always in the middle, between things, interbeing".<sup>534</sup> It has "multiple entryways and exits" and it "operates by variation, expansion, conquest, capture, offshoots."<sup>535</sup>

The final assignment of the programme was the production of a collection of articles that were published in *Synnyt/Origins*, which is an international journal that serves as a platform for critical comprehension of theory and practice in art and design, published by Aalto University. My article, referred to later in this book, dealt with interdisciplinary pedagogies and relations between architecture and engineering. In terms of pedagogy, it frames the foundation of this thesis and my approach to higher education at Aalto University.

In my own thinking, this one-off programme opened up a multiplicity of dimensions on pedagogy and led me to believe that there is not just one, but many pedagogies that are relevant and useful in the context of higher education. It also endorsed approaching pedagogy as a non-linear, rhizomatic structure, dwelling in the in-between areas of disciplines, and in the process(es) of becoming. These approaches have become ever more meaningful in the incremental development of university pedagogy towards interdisciplinarity and critical creativity – as opposed to the stagnant and traditional master-apprentice approach of the practice-based architectural education.

Furthermore, this expanded notion of multiple pedagogies and developments towards a holistic view of university education helped me to develop my own thinking about architectural education and to process issues that later became articulated as research questions for this thesis:

*'What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?'*

*'What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?'*

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<sup>533</sup> Ibid.:236.

<sup>534</sup> Deleuze and Guattari, 1987:25.

<sup>535</sup> Ibid.:21, as in Löytönen, 2017:236.

### 4.3 LEARNING AND TEACHING IN HIGHER EDUCATION

This section presents a brief overview of the basic concepts related to the processes of learning. It has been an important part of my journey and I have valued this theoretical framework as a grounding element and foundation of my research and my work as a pedagogue. In the following paragraphs I will outline some basic concepts and relevant learning theories related to university pedagogy that concentrates on educating self-directed, autonomous thinkers.

#### 4.3.1 Definitions of Learning

Learning can be understood as something profoundly human: we become who we are through a complex process of learning in all circumstances and stages of life. As I see it, this *becoming ourselves* is never ending: we continue to learn and adapt to novel circumstances as long as we live. Due to the complex and elusive nature of this profound phenomenon, there is no one definition of learning that would be universally accepted. According to Dale Schunk, “learning is an enduring change in behaviour, or in the capacity to behave in a given fashion, which results from practice or other forms of experience.”<sup>536</sup> On the other hand, De Houwer, Barnes-Holmes and Moors define learning as *ontogenetic adaptation* – that is, “as changes in the behaviour of an organism that result from regularities in the environment of the organism.”<sup>537</sup> Learning can be seen as the adaptation of an individual organism to its environment during the lifetime of the individual,<sup>538</sup> and thus is related to psychology, in the same way that evolution theory is central to biology.<sup>539</sup> As summarised by Mowrer and Klein, “all of these definitions seem to share the common theme that learning is a relatively permanent change in the probability of exhibiting a certain behaviour resulting from some prior experiences (successful or unsuccessful).”<sup>540</sup>

Knud Illeris offers a broad definition of learning “*as any process that in living organisms leads to permanent capacity change and which is not solely due to biological maturation or ageing.*”<sup>541</sup>

For Illeris, learning is not solely something that concerns the single individual, rather it is “embedded in a social and societal context that provides impulses and sets the frames for what can be learned and how.”<sup>542</sup> In recent decades, the social aspects of learning have come more into focus, with concepts such as ‘social learning’ and ‘situated learning’, and especially in the psychological understanding of learning framed by ‘social constructionism’.<sup>543</sup> Learning is a complex individual and social phenomenon that occurs on a

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536 Schunk, 2012:3.

537 De Houwer, Barnes-Holmes and Moors, 2013:633.

538 Skinner, 1938 and 1984.

539 De Houwer et al, 2013:633.

540 Mowrer and Klein, 2000:2.

541 Illeris, 2007:3.

542 Ibid.:19.

543 Ibid.. See also: Gergen, 1994; Burr, 1995.



variety of levels, depths and contexts of human life. It is a systemic process, where human action is seen as multi-faceted and multi-layered, highly dependent on the context where the individual's actions take place.<sup>544</sup>

In the context of higher education, the key targets of university pedagogy are knowledge creation through research and development of academic expertise.<sup>545</sup> In higher education, individual learning is both a result of teaching and a combination of one's previous learning experiences, life situations, peer support, faculty traditions, available resources and the competency of the university teachers alike.<sup>546</sup> Learning is always bound to context, related to the culture and situation where it occurs. In universities, the context is the scientific and artistic faculty, which creates tensions – positive or negative – that challenge the students to develop their learning skills and motivation.<sup>547</sup>

### 4.3.2 Approaches to Learning: Deep – Surface – Strategic

New developments in research on university student learning have been ongoing since the late 1960s.<sup>548</sup> While the early work had concentrated more on traditional psychological attributes such as personalities and motivations, the new developments started to explore the complex interaction between students and their learning environments.<sup>549</sup>

Marton and Säljö, in their ground-breaking study, were the first ones to actually examine students' responses to a task that required them to read a text and answer questions posed to them after the reading.<sup>550</sup> They found two distinguishable levels of processing learning materials, which they called *surface-level* and *deep-level* processing. They describe surface level processing as something when "the student directs his attention towards learning the text itself (the sign), i.e., he has a 'reproductive' conception of learning."<sup>551</sup> In the case of deep-level processing, on the other hand, "the student is directed towards the intentional content of the learning material (what is signified), i.e. he is directed towards comprehending what the author wants to say about, for instance a certain scientific problem or principle."<sup>552</sup>

Continuing the work of Marton and Säljö, Entwistle and his group discovered a third approach, which they called a *strategic approach*, in which the student combines the surface and deep approaches according to need.<sup>553</sup> This means that the student aims at optimising his or her performance according to the assessment requirements of the course.<sup>554</sup> The student is aware of the

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544 Rauste-von Wright et al., 2003.

545 Lindblom-Ylänne and Nevgi, 2011:70.

546 Ibid.:71.

547 Lindblom-Ylänne and Lonka, 1999.

548 Case and Mashall, 2009:9.

549 Ibid..

550 Marton and Säljö, 1976.

551 Ibid.:7.

552 Ibid..

553 Entwistle and Ramsden, 1983.

554 Lindblom-Ylänne and Nevgi. 2011:92.

teacher's aims and criteria of the student performance.<sup>555</sup> In the deep-level approach, the student is mostly interested in the contents of the learning material, whereas in the strategic approach, the awareness of the assessment criteria is the focus.<sup>556</sup>

International studies have shown that students who adapt a deep-level approach to learning score better results and acquire a wider understanding of the contents of their studies, compared to those who are oriented towards surface learning.<sup>557</sup> However, those students who combine a strategic approach with a deep-level learning approach to optimise their performance seem to be the most effective in terms of advancing their studies.<sup>558</sup>

However, it is important to note that we cannot label a particular student as a 'deep-learner' or 'a surface learner'.<sup>559</sup> Students' usage of these approaches are context-related and may vary considerably from one course to another.

### 4.3.3 Theories of Learning

According to Illeris, "all learning implies the integration of two very different processes, namely an external interaction process between the learner and his or her social, cultural or material environment, and an internal psychological process of elaboration and acquisition."<sup>560</sup>

Some learning theories, such as the traditional behaviourist and cognitive learning theories tend to focus only on the internal psychological process, whereas some modern social learning theories focus on the external interaction process alone. None of those approaches are wrong or worthless in themselves – they just fail to cover the whole field of learning.<sup>561</sup> However, it is clear that both dimensions are to be explored if any learning is to take place.

For the purposes of this study, I have chosen to look deeper into some of the contemporary learning theories that combine these approaches. I will briefly touch on some of those theories that are relevant to this research in how they contribute to the ideas of collective knowledge creation and developing an internalised cultural understanding in the context of higher education.

#### 4.3.4.1 Constructivist and Socio-Constructivist Theories of Learning

Constructivist theories, according to Packer and Goicoechea, "focus on the active character of the learner, interacting with the environment either singly or with others."<sup>562</sup> Learning is seen as "the resulting construction and qualitative reorganisation of knowledge structures."<sup>563</sup> The constructivist

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555 Entwistle and Ramsden, 1983.

556 Lindblom-Ylänne and Nevgi, 2011:92.

557 Lonka, 1997.

558 Entwistle and Ramsden, 1983.

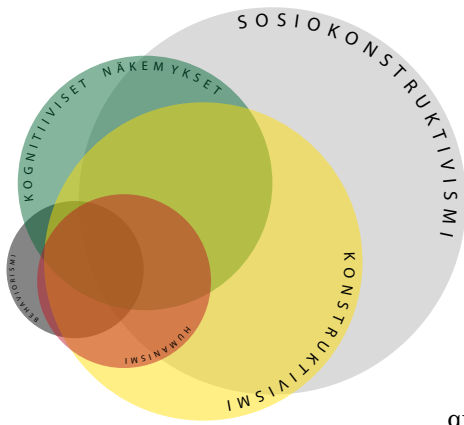
559 Biggs, 1993.

560 Illeris, 2009:2.

561 Ibid..

562 Packer and Goicoechea, 2000: 228.

563 Ibid..



approach emphasises collaborative work on authentic projects, in which the learners take full responsibility “to monitor and direct their own learning and performance.”<sup>564</sup> Constructivist theory underlines the importance of setting one’s own learning targets and committing to them.<sup>565</sup>

Learning is a systematic process, supported by the teacher, who helps to find the right questions. The student examines and finds answers guided by the teacher.<sup>566</sup>

The problem in constructivist learning methods is that the learners may feel anxious and experience disproportionate insecurity when facing the responsibility for his or her own learning, possibly for the first time. The learners risk feeling abandoned, unless the teacher is able to provide timely support in the early phase of their learning process.<sup>567</sup>

Socio-constructivist learning theories are based on understanding cultural connections and community. Social constructionism claims that learning is something taking place *between* people and, therefore, is social in nature.<sup>568</sup> Learning is not a matter of an individual alone, rather than groups and communities learning together. Constructivist learning theories have been criticised for solely concentrating on individual processes, therefore lacking some important aspects of learning.<sup>569</sup> Socio-cultural learning theories assert that knowledge is produced in a context that is culturally and socially defined.<sup>570</sup>

Socio-constructivism can be understood as a concept describing all those theories that emphasise social and cultural dimensions of learning. Knowledge is socially constructed and shared, through discussion and discourse. The learners are active participants in knowledge creation, by participating and affecting the surrounding social community.<sup>571</sup> Learning is also considered situated: learning is strongly influenced by the environment and context where it takes place. Situated cognition emerges and the learner participates and becomes part of a community of practice.<sup>572</sup>

Packer and Goicoechea propose that “the sociocultural and constructivist perspectives are not two halves of a whole, but that the constructivist perspective attends to epistemological structures and processes that the sociocultural perspective can and must place in a broader historical and cultural context.”<sup>573</sup>

<sup>564</sup> Kwan, 2009:97.

<sup>565</sup> Nevgi and Lindblom-Ylänne, 2011:226.

<sup>566</sup> Rauste-von Wright, 1997.

<sup>567</sup> Nevgi and Lindblom-Ylänne, 2011:226.

<sup>568</sup> Illeris 2007:19.

<sup>569</sup> Nevgi and Lindblom-Ylänne, 2011:227.

<sup>570</sup> Ibid..

<sup>571</sup> Ibid.:229.

<sup>572</sup> Hakkarainen, Lonka and Lipponen, 2004.

<sup>573</sup> Packer and Goicoechea, 2000: 227.

## 4.4 THEORIES IN ADULT EDUCATION

In Section 4.4, I will present the basic ideas of transformative learning and problem-based learning. These approaches have proven to be the most relevant and helpful in my work when outlining course methodologies for interdisciplinary education in the field of humanitarian architecture. They both strive for autonomous thinking and self-directed learning, while providing useful tools for framing suitable and applicable methods and practicalities for interdisciplinarity and creative thinking in higher education. It is noteworthy, however, that contemporary research in educational theories and practices is extensive, and this thesis only provides a narrow overview.<sup>574</sup>

### 4.4.1 Transformative learning theory

Transformative learning theory was first coined in 1998 by Jack Mezirow, who contributed to the discourse and development of the theory throughout his career. In the 1970s, he had already presented his concept of ‘perspective transformation’, which was critiqued and expanded by other theorists in the following decades. His theory concerned adult learning – as opposed to child focused learning – which is characteristic of universities, where the learners can be assumed to possess a body of knowledge stemming from their prior life experiences. Patricia Cranton and Edward Taylor point out that central to the adult learning process is “developing more reliable beliefs about the world, exploring and validating their dependability, and making decisions on an informed basis.”<sup>575</sup>

Transformative learning theory is described by the Education Resources Information Center (ERIC) as “learning by reflecting critically on one’s own experiences, assumptions, beliefs, feelings, and mental perspectives in order to construe new or revised interpretations.”<sup>576</sup> Today, transformative learning theory can be considered one of the most comprehensive adult learning theories developed to date.<sup>577</sup> As further defined by Mezirow:

Transformative learning refers to the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets), to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action.<sup>578</sup>

Transformative learning represents a deep shift in perspective, during which “habits of mind become more open, more permeable, and better justified.”<sup>579</sup> Generally, transformative learning takes place when a person, a group of

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574 Fenwick, Edwards and Sawchuk, 2015.; Fenwick and Nerland.2014.; Orr and Shreeve, 2018.

575 Cranton and Taylor, 2011:196.

576 ERIC. “Transformative Learning.” <https://eric.ed.gov/?ti=Transformative+Learning.>, accessed October 13, 2019.

577 Cranton and Taylor, 2011:201.

578 Mezirow, 2000:7-8.

579 Cranton, 2016; Mezirow, 2000,

people or a larger social unit encounter a perspective that contradicts the prevailing perspective.<sup>580</sup> This may be an event, a discovery, a social movement – anything that forces people to examine their current beliefs, values and assumptions.<sup>581</sup> Mezirow originally saw this as a single, dramatic event – a disorienting dilemma – but later theorists have included the perspective of a gradual and cumulative process.<sup>582</sup> Transformative learning may occur if the dilemma is predisposed to critical thinking, leading to transformation in perspective and change in behaviour.

#### 4.4.1.1 Frames of Reference

A central structure to transformative learning is a frame of reference, which, according to Cranton and Taylor, “includes the meaning structures of assumptions and expectations that frame an individual’s tacit points of view and influence their thinking, beliefs, and actions.”<sup>583</sup> Frames of reference are the structures of assumptions through which we understand and make sense of the world, acting as filters when interpreting our experiences.<sup>584</sup> Our expectations, perceptions, cognition and feelings are selectively shaped and delimited by these frames of reference that provoke a set of actions and explain our behaviour.<sup>585</sup>

Mezirow describes frames of reference as being composed of two dimensions: *habits of mind* and a *point of view*.

Habits of mind are broad, abstract, orienting, habitual ways of thinking, feeling, and acting influenced by assumptions that constitute a set of codes. These codes may be cultural, social, educational, economic, political, or psychological. Habits of mind become articulated in a specific point of view – the constellation of belief, value judgment, attitude, and feeling that shapes a particular interpretation.<sup>586</sup>

Cranton asserts that “habits of mind are uncritically absorbed from our families, communities and culture. They have a tendency to remain unquestioned unless we encounter an alternative perspective that we cannot ignore.”<sup>587</sup> A clear example of a habit of mind – or meaning perspective – is ethnocentrism, which causes us to judge another culture based on preconceptions that are found in the values and standards of one’s own culture.

Originally, Mezirow described three kinds of meaning perspectives: epistemic, sociolinguistic and psychological,<sup>588</sup> which he later complemented with

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580 Cranton and Taylor, 2011: 194.

581 Ibid..

582 Cranton, 2016:19.

583 Cranton and Taylor, 2011 :196.

584 Mezirow, 1997:5; Cranton and Taylor, 2011:196.

585 Mezirow, 1997:5.

586 Ibid..

587 Cranton, 2016:29.

588 Mezirow, 1991.

three more, namely the moral-ethical, philosophical and aesthetic habits of mind. He saw these categories as overlapping and intertwined, rather than independent of each other. A habit of mind is a way of seeing the world, based on our background, experience, culture and personality. Since it is determined by our personal stories, it is only reasonable to expect that the different meaning perspectives are interrelated.<sup>589</sup>

Patricia Cranton, a renowned pedagogue and scholar, offers a useful description of the six habits of mind:

1. **Epistemic** habits of mind are those related to knowledge – the ways we acquire and use knowledge. They also relate to the ways we learn, our learning styles and preferences, which tend to be persistent and not easy to change.
2. **Sociolinguistic** habits of mind are based on social norms, our use of language and cultural expectations. These constructs seem to be very deep and unconsciously absorbed as they are embedded in the cultural coding of our early growth environment.
3. **Psychological** habits of mind relate to the way people see themselves, and how they experience their self-concept, their needs, restraints, anxieties and fears. We make judgements of the world using thinking or feeling and perceive the world through our senses or through our intuition. These preferences act as filters in how we see the world.
4. **Moral-ethical** habits of mind deal with conscience and morality, and how people see themselves as responsible for advocating for justice in the world. Individuals can adopt a moral consciousness that is of a higher stage than what the society in general expects.
5. **Philosophical** habits of mind can create powerful meaning perspectives, based on religious doctrines, philosophy or on a transcendental worldview. They may dictate the life of individuals and communities through a web of values, beliefs, guides to behaviour and rules for living.
6. **Aesthetic** habits of mind incorporate our attitudes, tastes, judgements, standards and values about beauty. They are largely determined by the socio-cultural norms of the community, thus closely linked to socio-linguistic habits of mind.<sup>590</sup>

Lawrence has highlighted the role of the arts as disrupting traditional notions of transformative learning: “Although critical thinking is one avenue toward transformation, the arts invite engagement that is also emotional (Dirkx, 2006) and embodied.”<sup>591</sup> Mezirow saw transformative learning primarily as a rational or cognitive process of critically reflecting meaning perspectives or habits of mind,<sup>592</sup> whereas Lawrence challenges this notion, describing how art breaks us out of the boundaries that constrain us.<sup>593</sup>

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589 Cranton, 2016:19.

590 Cranton, 2016:19-22.

591 Lawrence, 2012:472.

592 Mezirow, 1991. Mälkki (2010:48) points out that Mezirow equally considered our values and sense of self, anchored in our frames of reference, being “often emotionally charged and strongly defended”. Mezirow, 2000:8.

593 Cranton, 2016:21-22.



The arts take us out of our heads and into our bodies, hearts, and souls in ways that allow us to connect more deeply with self and others... The arts have the capacity to transform individual worldviews and when experienced collectively can potentially transform communities.<sup>594</sup>

The arts also invite emotional and embodied engagement into the transformation process of our habits of mind.<sup>595</sup> Goleman's introduction of emotional intelligence<sup>596</sup> expanded the educational discourse towards these perspectives of learning.<sup>597</sup> Cranton explains it thus: "Emotional intelligence has to do with a person's ability to manage emotions, recognize emotions in others, and establish good relationships with others."<sup>598</sup>

According to Vygotsky, cognitive categories are social in origin, as are the forms of thought in which these categories are embedded.<sup>599</sup> Understanding, consequently, is a social rather than a biological act. We become who we are in interaction with our environment, our cultural context and social framework, which all contribute to the formation of our habits of mind. Frames of reference are primarily the result of cultural assimilation and the idiosyncratic influences of primary caregivers.<sup>600</sup> Cultural frames of reference constitute the boundaries and formulas with which we differentiate, assign values, and integrate our experience.<sup>601</sup>

We have a strong tendency to remain within our familiar set of beliefs, because "maintaining a meaning perspective is safe," as Cranton puts it.<sup>602</sup> Only when we are confronted with a dilemma that does not fit into our current frame of reference, are we forced to reconsider our prior belief system.

#### 4.4.1.2 Types of Knowledge

When developing his transformative learning theory, Mezirow drew on Habermas's<sup>603</sup> three kinds of human interests, which result in three kinds of knowledge: instrumental (technical), practical (i.e. communicative) and emancipatory. In this view, transformative learning equals acquisition of emancipatory knowledge, when people critically reflect on instrumental and communicative knowledge.<sup>604</sup>

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594 Lawrence, 2012:471.

595 Dirkx, 2006.

596 In his book *Emotional Intelligence* (1995) Goleman defined emotional intelligence as "the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships".

597 Dirkx, 2006:16; Goleman, 1995.

598 Cranton, 2016:6.

599 Vygotsky, 1978; Mezirow, 1996:160.

600 Mezirow, 1997:6.

601 Mezirow, 1996:162.

602 Cranton, 2016:18.

603 Habermas and Shapiro, 1972.

604 Cranton and Taylor, 2011:194.

In instrumental learning, the truth of an assertion may be established through empirical testing. But communicative learning involves understanding *purposes, values, beliefs, and feelings* and is less amenable to empirical tests. In communicative learning, it becomes essential for learners to become critically reflective of the assumptions underlying intentions, values, beliefs, and feelings.<sup>605</sup>

Instrumental learning aims at controlling and manipulating the environment, with an emphasis on improving prediction and performance. Communicative learning, on the other hand, requires understanding what someone means when they communicate with you.<sup>606</sup>

Emancipatory knowledge emerges from our ability to be self-determined and self-reflective.<sup>607</sup> It includes a capacity to be aware and critical both of ourselves and of our social and cultural context. Cranton writes: “Self-reflection involves being aware and critical of our subjective perceptions of knowledge and of the constraints of social knowledge. Emancipatory knowledge is gained through a process of critically questioning ourselves and the social systems within which we live.”<sup>608</sup>

#### 4.4.1.3 Critical Reflection

Communicative learning requires critical reflection and critical self-reflection, and active assessment on what has been taken for granted to achieve a more dependable working judgment.<sup>609</sup> Here, Mezirow stresses the importance of such reflection:

We transform our frames of reference through *critical reflection on the assumptions* upon which our interpretations, beliefs, and habits of mind or points of view are based. We can become critically reflective of the assumptions we or others make when we learn to solve problems instrumentally or when we are involved in communicative learning. We may be critically reflective of assumptions when reading a book, hearing a point of view, engaging in task-oriented problem solving (objective reframing), or self-reflectively assessing our own ideas and beliefs (subjective reframing). Self-reflection can lead to significant personal transformations.<sup>610</sup>

For Mezirow, the process of transformative learning is centred on the notion of critical reflection and critical self-reflection, but he does not exclude the inclusion of imagination, intuition and emotion from the scene, as other theorists place them at the heart of transformation.<sup>611</sup> As Cranton puts it:

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605 Mezirow, 1997:6.

606 Mezirow, 2003:59.

607 Cranton, 2016:11.

608 Ibid..

609 Mezirow, 2003:60.

610 Mezirow, 1997:7.

611 Dirkx, 2001; Cranton, 2011:194.

In the extrarational perspective on transformative learning, people bring the unconscious into consciousness through imagination, intuition, and emotional experiences. We enter into a conscious relationship with images as we discover who we are as separate from and the same as others.<sup>612</sup>

Mezirow sees discourse – a dialogue involving assessment of beliefs, feelings and values – as a central component of transformative learning. It is a way to examine the evidence, the argument and alternative points of view, to assess competing interpretation.<sup>613</sup> Our frames of reference are transformed through critical self-judgement and critical thinking, which are acquired in interpersonal communication with others. Knowledge produced in the reflective process is emancipatory as we become able to adopt new perspectives and transform our frames of reference in face of situations that require assessment of our tacit, even hidden assumptions – of which we may have been previously unaware.

#### 4.4.1.4 Autonomy

Transformative learning aims at empowering individuals to think as autonomous agents in a collaborative context.<sup>614</sup> For Mezirow, “*autonomy* here refers to the understanding, skills, and disposition necessary to become critically reflective of one’s own assumptions and to engage effectively in discourse to validate one’s beliefs through the experiences of others who share universal values.”<sup>615</sup> Becoming critically reflective of one’s own assumptions is the key to transforming one’s taken-for-granted frame of reference, and becoming an autonomous thinker.<sup>616</sup>

Acquisition of knowledge or competencies will not automatically generate new understandings and perspectives. Transformative learning is voluntary: it occurs through discourse and active communication as a group of learners engages in critical reflection on their prevailing sets of values. Adult learners have a wide set of experiences to bring into the learning context. Transformative learning is also situated, in the sense that the reflection of a frame of reference takes place in a particular context and situation, relating to the experiences of the learners.

#### 4.4.1.5 Education for Transformative Learning

It is important to note that we cannot assume that all adult learners are automatically self-directed and capable of becoming active participants in discourse.<sup>617</sup> The process requires active planning, support and facilitation of opportunities for participation. The teacher should become aware of his/her own presumptions of the learners, and start to see them as individuals with their

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612 Cranton, 2011:197.

613 Mezirow, 1997:6.

614 Mezirow, 1997:8.

615 Mezirow, 1997:9.

616 Ibid..

617 Cranton, 2016:3.

own distinct talents, challenges and capabilities.<sup>618</sup>

The role of the teacher is that of a mentor: transformative learning requires that the teacher is capable of letting go of the traditional role of a teacher as an instructor, and become a co-learner in the process of assessing and critically reflecting on the prevailing frames of references. In becoming a co-learner, the teacher can facilitate the discourse and introduce alternative meaning perspectives. The educator acts as a facilitator and a provocateur, rather than as an authority on subject matter.<sup>619</sup>

When fostering transformative learning, it is of paramount importance to develop an appreciation of the personal and socio-cultural factors that influence transformative learning.<sup>620</sup> These include the immediate surroundings where the learning event takes place, the prior life history of the learners, and the overall conditions and contemporary events affecting the society.<sup>621</sup> Furthermore, Mezirow asserts that “education that fosters critically reflective thought, imaginative problem posing, and discourse is learner-centred, participatory, and interactive, and it involves group deliberation and group problem solving.”<sup>622</sup> For Cranton, “supporting transformative learning requires a good understanding of individual differences in style, psychological preferences, values, culture, race and gender.”<sup>623</sup>

Transformative learning theory has a constructivist foundation, as do many other learning theories, and there is considerable overlap between the characteristics of transformative learning and other established learning theories.<sup>624</sup> In my own work as a pedagogue, transformative learning theory provides a useful framework for developing informed methodologies in my approach to higher education. It has also been an important support in encounters with students, allowing me to better value their individual qualities and knowledge base.

Transformative learning theory suggests that the learners become the owners of their own learning processes in order to transform their frames of reference through critical reflection and self-reflection. It thus forms a valuable base for approaches such as Problem Based Learning and acquisition of transferable skills – the latter being highly valued in the context of universities and higher education and of paramount importance in our rapidly changing societies.

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618 Nevgi and Lindblom-Ylänne, 2011:211.

619 Mezirow, 1997:11.

620 Cranton and Taylor, 2011:201.

621 Ibid..

622 Mezirow, 1997:10.

623 Cranton, 2016:134.

624 Cranton and Taylor, 2011:201.

#### 4.4.2 Problem Based Learning (PBL)

Problem based learning (PBL) is a student-centred approach to learning, using real-world problems as a starting point for the acquisition and integration of new knowledge.<sup>625</sup> Rather than an instructional method, PBL is a nurturing environment, “in which all curriculum elements are systematically aligned to help students achieve the learning outcomes.”<sup>626</sup> It is to be seen as learning that has a number of forms. A problem-based learning environment includes several distinct characteristics, which may be identified and utilised in the design and implementation of a PBL curriculum.

David Boud has outlined eight characteristics of many problem-based learning courses:

1. an acknowledgement of the base of experience of learners;
2. an emphasis on students taking responsibility for their own learning;
3. a crossing of boundaries between disciplines;
4. an intertwining of theory and practice;
5. a focus on the processes rather than the products of knowledge acquisition;
6. a change in the tutor's role from that of instructor to that of facilitator;
7. a change in focus from tutors' assessment of outcomes of learning to student self-assessment and peer assessment;
7. a focus on communication and interpersonal skills so that students understand that in order to relate their knowledge, they require skills to communicate with others, skills that go beyond their area of technical expertise.<sup>627</sup>

Primarily, the problems in PBL are vehicles for the development of problem-solving skills, but they also include content knowledge and abilities like self-directed learning, critical thinking and reasoning, communication and teamwork.<sup>628</sup> In PBL, student are active participants in the learning process, whereas the teacher takes on the role of a coach, who, as Anna Kwan explains, “presents students with real-life problems, then fades in the background by facilitation and modelling at appropriate points.”<sup>629</sup> According to Savin-Baden and Howell, “problem-based learning is an approach to learning that is affected by the structural and pedagogical environment into which it is placed, in terms of the discipline or subject, the tutors and the organisation concerned.”<sup>630</sup>

The origins of Problem Based Learning are in 1960s North America. Howard Barrows, a medical educator at McMaster University in Hamilton, Canada, developed a method of simulating real-life cases in medical studies. He argued that in order for students to handle patients' health problems in

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625 Kwan, 2009:91.

626 Ibid..

627 Boud, 1985.

628 Kwan, 2009:91.

629 Ibid.:92.

630 Savin-Baden and Howell, 2004:8.

a competent and humane way, the doctors must “master an essential body of knowledge, the ability to apply the knowledge, and the capacity to learn how to learn to extend and improve that knowledge to keep up in the ever-expanding field of medicine.”<sup>631</sup> Barrows went on to develop PBL to work on a series of clinical problems that would exceed the conventional case studies, to allow the students to engage in acquiring new knowledge on their own, to integrate and apply the knowledge in the context of patients’ problems as a means to cultivate students’ clinical reasoning.<sup>632</sup>

Since its early days, PBL has seen numerous variations, all of which share the idea of a cyclic and incremental learning process.<sup>633</sup> Essential to PBL is student-centredness, interdisciplinarity, integration of theory and practice, learning processes, shifting responsibility of the learning process from teachers to students, continuous self-assessment and communication skills.<sup>634</sup> Students “are expected to engage with the complex situation presented to them and decide what information they need to learn and what skills they need to gain in order to manage the situation effectively.”<sup>635</sup>

Problem Based Learning should not be mixed up with problem-solving learning, where the cases are narrower and more specifically identified, and the teacher’s role is closer to a traditional substance owner. In PBL, the aim is to introduce the students to a new thematic area, to help assess previous knowledge related to the theme and set their own learning objectives.<sup>636</sup>

The theoretical foundation of PBL is in constructivist learning theories, as well as in situated learning, information processing, metacognition, self-directed learning and cooperative learning.<sup>637</sup> Thomas argues that transformative learning is at the basis of PBL, as a strength of this pedagogy.<sup>638</sup> Clearly, it directs students towards critical thinking, critical reflection and self-reflection, as they put their instrumental and communicative knowledge to test, and collaboratively explore alternative ways of approaching complex challenges.

In design PBL problems, student’s prior knowledge should be taken into consideration. It may become too much of a challenge for novice learners, and therefore it is preferable to introduce PBL to advanced students, who have already developed a solid knowledge base to be tested.<sup>639</sup> PBL fits well with professional and higher education, since it offers a useful framework for transformative learning and assessment of frames of reference. It requires self-directed learning, communication skills and a holistic approach to find alternatives and solutions to wicked problems.

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631 Ibid.:96.

632 Barrows, 1985.

633 Lindblom-Ylänne, Nieminen, Iivanainen and Nevgi, 2011:262.

634 Ibid.:264; Savin-Baden, 2000.

635 Savin-Baden, 2004b:2.

636 Lindblom-Ylänne et al., 2011:268.

637 Kwan, 2008.

638 Thomas, 2009:255.

639 Kwan, 2009:105.



## 4.5 SKILLS AND DISPOSITIONS

In the contemporary discourse about university pedagogy, we often hear demands and critical voices from the professional fields about the needs of educating students with the abilities to confront situations of a non-disciplinary nature.<sup>640</sup> The general attitudes and qualities needed to master varied situations other than those connected to disciplinary realms require diverse transferable or generic skills, both in single- and interdisciplinary contexts.

Transformative and problem-based learning, discussed in the previous sections, are methods which are based on communication with other learners. Becoming aware of one's frames of reference, confronting a disorienting dilemma, and becoming a critically reflective and autonomous thinker, all require communication and other generic skills. In this section I address these transferable skills and attitudes to be considered in higher education.

### 4.5.1 Transferable Skills

Transferable skills are those soft or generic skills that one needs to master, especially in work life and employment, in order to communicate and function effectively in a professional context. The terms transferable, generic, core and cross-curricular skills usually refer to skills applicable in both – or either – different cognitive domains or subject areas, or across various social situations, particularly related to employment.<sup>641</sup> They are often used interchangeably, in a loose manner, which implies a lack of clearly identifiable differences between the terms.<sup>642</sup>

According to David Bridges, the term *cross-curricular skills* emphasises the feature of applicability across a variety of cognitive domains. The National Curriculum Council in England listed as cross-curricular skills a set of six broad categories: communication, numeracy, study, problem-solving, personal and social, information technology.<sup>643</sup> These types of skills are often referred to as 'core skills', as they could almost be taught in their own right, separated from subject content.<sup>644</sup>

The term *transferable skills* becomes useful when people describe skills applicable across different social contexts. Skills such as interpersonal communication, management skills and collaborative group working skills are examples of such.<sup>645</sup> Kemp and Seagraves mention core skills, core competences, generic skills, personal skills and personal competence.<sup>646</sup> In vocational education, the term core skills are more common, whereas in higher education one usually refers to transferable skills.<sup>647</sup>

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640 Chadha, 2006:19-20.

641 Bridges, 1993:45.

642 Ibid..

643 National Curriculum Council, 1990.

644 Bridges, 1993:45.

645 Ibid..

646 Kemp and Seagraves, 1995.

647 Ibid..



Workshop in Aalto LAB Mexico.  
PHOTO JAN AHLSTEDT

Ian Davis refers to transferable skills as “attitudes and knowledge to ensure that every student gains something substantial for the future career, even within a different field.”<sup>648</sup> He includes skills such as:

Teamwork, working in groups; leadership; social skills- listening and empathy; IT skills, problem definition and analysis; project design; basic financial management of projects; fieldwork and data collection; public speaking; writing/ reading and research methods; political analysis; advocacy and creativity.<sup>649</sup>

Alison Assiter describes these skills as “the metaskills, the second-order skills which enable one to select, adapt, adjust and apply one’s other skills to different situations, across different social contexts and ... across different cognitive domains.”<sup>650</sup> One can also argue that lacking these generic skills, other professional and disciplinary competencies may become wasted.<sup>651</sup>

As such, there is nothing novel in the idea of an education that prepares individual minds to analyse surrounding circumstances widely, as Jessup writes, with a “breadth of vision and perspective... including the ability to analyse problems, sift information, weigh evidence, evaluate solutions and to communicate effectively.”<sup>652</sup> It has been the prevailing paradigm of higher education since the classical period, before the major disciplinary division that led to the segregated structures of contemporary academia.

648 Davis, 2018.

649 Ibid..

650 Assiter, 1995:164.

651 Bennett, Dunne and Carré, 1999.

652 Jessup, 1990:i.

In 1995, Bennett, Dunne and Carré conducted a university-wide study in Exeter, including interviews and observations of thirty-three departments.<sup>653</sup> As an outcome of their analysis, they presented the following table,<sup>654</sup> which contains four broad management skills, namely those of self, others, information and task. Their model presents a holistic approach to learning, largely grounded in cognitive and situated learning theories, and as such provides a flexible, yet solid foundation for discussion and action. It is generically applicable in any higher education context, thus being a useful tool for academics in their course planning, regardless of content. It becomes especially useful in the context of interdisciplinary pedagogy, which requires a broader array of perspectives, skills and attitudes than traditional single discipline education.

Generic skills

<p><b>Management of Self</b></p> <ul style="list-style-type: none"> <li>• Manage time effectively</li> <li>• Set objectives, priorities and standards</li> <li>• Take responsibility for own learning</li> <li>• Listen actively with purpose</li> <li>• Use a range of academic skills</li> <li>• Develop and adapt learning strategies</li> <li>• Show intellectual flexibility</li> <li>• Use learning in new or different situations</li> <li>• Plan/work towards long-term goals</li> <li>• Purposefully reflect on own learning</li> <li>• Clarify with criticism constructively</li> <li>• Cope with stress</li> </ul>	<p><b>Use appropriate sources of information</b></p> <ul style="list-style-type: none"> <li>• Use appropriate technologies</li> <li>• Use appropriate media</li> <li>• Handle large amounts of information</li> <li>• Use appropriate language and form</li> <li>• Interpret a variety of information forms</li> <li>• Present information competently</li> <li>• Respond to different purposes/contexts and audiences</li> <li>• Use information critically</li> <li>• Use information in innovative and creative ways</li> </ul>
<p><b>Management of Others</b></p> <ul style="list-style-type: none"> <li>• Carry out agreed tasks</li> <li>• Respect the views and values of others</li> <li>• Work productively in a cooperative context</li> <li>• Adapt to the needs of the group</li> <li>• Defend/justify views and actions</li> <li>• Take initiative and lead others</li> <li>• Delegate and stand back</li> <li>• Negotiate</li> <li>• Offer constructive criticism</li> <li>• Take the role of chairperson</li> <li>• Learn in a collaborative context</li> <li>• Assist/support others in learning</li> </ul>	<p><b>Management of Task</b></p> <ul style="list-style-type: none"> <li>• Identify key features</li> <li>• Conceptualise ideas</li> <li>• Set and maintain priorities</li> <li>• Identify strategic options</li> <li>• Plan/implement a course of action</li> <li>• Organise sub-tasks</li> <li>• Use and develop appropriate strategies</li> <li>• Assess outcomes</li> </ul>

Figure 8: A framework for the development of generic skills, according to Bennett et al.<sup>655</sup>

653 Dunne, 1995.

654 See Figure 8.

655 Bennet et al., 1999:78.

These skills are generic in that they can potentially be applied to any discipline, to any course in higher education, to the workplace or indeed to any other context. The set of sub-skills included within each of the four areas are intended to serve as a set of examples of learning outcomes, rather than as a rigid set of skills to be achieved in each university department or any employment setting.”<sup>656</sup>

Ronald Barnett views transferable skills as “those that surely hold across manifold situations, even unknown ones.”<sup>657</sup> He suggests, however, “that the idea of skills, even generic skills, is a cul-de-sac. In contrast, the way forward lies in construing and enacting a pedagogy for human being. In other words, learning for an unknown future has to be a learning understood neither in terms of knowledge or skills but of human qualities and dispositions. Learning for an unknown future calls, in short, for an ontological turn.”<sup>658</sup> Among such qualities and dispositions Barnett lists carefulness, thoughtfulness, humility, criticality, receptiveness, resilience, courage and stillness.<sup>659</sup>

#### 4.5.2 Architecture as an ‘Attitude’

Ever since Donald Schön introduced his theories of the *reflective practitioner* as a model of architectural education in the 1980s, studio teaching with its embedded apprenticeship model<sup>660</sup> has remained the prevailing paradigm and model of architectural education throughout the western architectural schools.<sup>661</sup> An educational setting where a design task simulates reality is a common practice, aiming at cultivating design and problem solving skills. However, studio education, in the manner that Schön described it, has its own limitations, because it relies solely on cognitive learning theories.<sup>662</sup>

Schön’s approach and theorising of architectural studio education demonstrates a limited understanding of the domains of learning.<sup>663</sup> He placed the teacher in a central role in the student’s learning process,<sup>664</sup> thus neglecting the discursive and transformative potentials of learning. Many have expressed critical voices, claiming that Schön’s approach has produced an overly narrow description of architectural learning.<sup>665</sup> According to Helena Webster, firstly “Schön fails to recognise that there are other cognitive, affective and corporeal dimensions to learning that take place both within the design studio and in other settings.” Secondly, he “fails to recognise that students experience archi-

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656 Bennet et al., 1999:77.

657 Barnett: 2012:65.

658 Ibid..

659 Ibid:75.

660 ‘...novices learnt to become architects through a mix of engaging in the work of an architectural office, observing and being coached by a master architect.’ Webster, 2008:64. See also Edström, 2018; Svensson and Edström, 2011.

661 Webster, 2008.

662 Ibid..

663 Ibid.:72.

664 Yanar, 1999:107.

665 Webster, 2008:66; Yanar, 1999.

tectural education as the sum of its explicit and hidden dimensions, and it is this total experience that effects the development of students from novices to professional architects.”<sup>666</sup>

Citing a student survey of Swedish architecture students, Krupinska asserts that architectural education seems to bear resemblance to no other.<sup>667</sup> She recounts how their experiences – and her own included – was much about uncertainties in the face of the studio format and the critique, so essential to the contemporary architecture education paradigm. Such surveys indicate that architectural education aims to assimilate students into a homogeneous culture of “being and thinking like an architect” in esoteric terms.<sup>668</sup>

More than a set of defined skills, architectural education has also been suggested to be a process of ‘becoming’ a practitioner, a member of a community of practitioners, with an ‘architect’s identity’. James Thompson describes the process thus:

Embarking on the path of a career in architecture means cultivating an architectural identity, of which there are many. Adopting such an identity requires more than acquiring the requisite knowledge and skills to practice professionally. Such abilities – the *doing* aspect of design practice – constitute only part of the equation. In actuality, *becoming* an architect is largely a meaning-making experience, whereby aspiring architects must periodically recalibrate their expectations, aspirations, and sense of self against the field’s pluralistic cultural landscape.<sup>669</sup>

A certain ambivalence marks the definitions of architectural education, as it is often described as a process of building an identity and an attitude, in addition to disciplinary expertise. In this assimilation lies the risk of lacking abilities for autonomous and critical thinking. Furthermore, the discipline-specific skill set one needs to master for the professional work remains under constant change. As a discipline that is positioned at the interface of many others, architecture also embraces socio-political and economic dimensions, which add to the elusive perspective of the profession. In an ACSA report on conditions driving changes in architectural education and accreditation, it confirms that:

More than ever, architectural practice takes place within a network of interrelated disciplines. As this network expands, the knowledge needed to practice is becoming simultaneously broader, more specialized, and more diverse in scope. This emerging context translates into a complex, but no less compelling, portrait of an architecture graduate: a creative, responsive, and technically proficient designer, an acute synthesizer of knowledge, and a deft leader and collaborator within a multidisciplinary team.<sup>670</sup>

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666 Webster, 2008:66.

667 Krupinska, 2014:13.

668 Ibid.:14.

669 Thompson, 2019:1.

670 ACSA, Association of Collegiate Schools of Architecture, 2008.

One could suggest defining architectural education as a process of cultivating an identity and an attitude, with a set of transferable skills and appropriate dispositions, in addition to a profession-related set of skills and knowledge. Like many other professions, architecture and the role of architects is changing rapidly amidst the contemporary global challenges. Equally, adopting new dimensions would also benefit architectural education and the future relevance of the field.

## 4.6 CONCLUDING REMARKS

In Chapter 4, *Architectural Education and Theories of Learning*, I reflected on the role of pedagogy in Finnish architectural education, and the appropriateness of the established studio teaching methods, which aim at ‘enculturation’ rather than posing relevant questions on the philosophical, ontological or epistemological premises of the discipline. I discussed the pedagogical training of university teachers through my own experience at Aalto University in ‘an experiment in creative educational development’. This was framed by Gilles Deleuze’s philosophy of difference<sup>671</sup>, which Löytönen claims “allows for a movement beyond the boundaries that (might) limit or bind developmental efforts in pedagogy.”<sup>672</sup>

As a theoretical framework for PART II of my thesis, I presented basic concepts and theories of learning that are particularly relevant in the context of adult education, concentrating on educating self-directed, autonomous thinkers – most importantly transformative learning theory and Problem Based Learning (PBL). I also discussed transferable skills and dispositions as vehicles for communication, collaboration and sharing. The ambivalence of architectural education, also described as a process of building an identity and an ‘attitude’, may pose the risk of neglecting abilities for autonomous and critical thinking. A new pedagogical dimension would be beneficial in facing the changing socio-political situations.

These discussions frame the reflections on interdisciplinary pedagogies, which I will explore in Chapter 5. I will investigate the possibilities for expanding architectural education into new positions and interdisciplinary perspectives, asking ‘*What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?*’ I will also discuss the potential of those directions that exploit and are informed by the principles of transformative learning theories, creative and artistic processes, problem-based learning, as well as transferrable skills and dispositions for life-long learning, as discussed in Chapter 4.

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671 Deleuze, 1994.

672 Löytönen, 2017:232.





Indigo blanket of the Dogon.  
PHOTO ANNE KINNUNEN



## Chapter 5

# INTERDISCIPLINARY PEDAGOGIES IN HIGHER EDUCATION

## 5.1 INTRODUCTION

In the previous chapter, I reflected on transformative and problem-based learning theories, because they provide a powerful set of tools for establishing a pedagogical framework for interdisciplinary higher education in the field of humanitarian architecture. For the purposes of sustainable global and societal impact, it is useful to adopt a holistic view of university pedagogy, as described in Section 4.2.2.

In the framing of my work as a university teacher concerned with humanitarian themes, it has been important to consider how we can cross and transcend the boundaries of siloed disciplinary structures – because in the world outside academia, this is reality. In real life, graduates can no longer isolate themselves in academic schools and departments, keeping company with their peers alone. Universities have the potential to initiate developments that may have far-reaching consequences, affecting the ways of working of future professionals who will be forming the society.

In Chapter 5, I first discuss the challenges of interdisciplinary university programmes, the challenge of bridging disciplines in universities, and the objectives of interdisciplinary cooperation.

I will reflect on the findings dating back to the mapping of collaboration between the Aalto Schools of Arts, Design and Architecture, and the School of Engineering, conducted by Christopher Rose and myself.<sup>673</sup> I present the thinking that stemmed from the encounters and discussions with academics both at Aalto University and at institutions around the world, as we visited schools and programmes, such as the *Innovation Studio* at Rhode Island School of Design (RISD),<sup>674</sup> *Arts Letters and Numbers* (ALN)<sup>675</sup> and the *PBL lab* at Stanford University.<sup>676</sup>

Further on, I will debate contemporary definitions of interdisciplinarity because the terms multi-, inter-, and transdisciplinarity are often confused, and lack clarity on the terminology. I also discuss the challenges of interdisciplinary teamwork and how it can be facilitated.

To facilitate ‘dwelling *in-between* disciplines’, I present some general conditions for creative thinking, which would allow for exploiting the creative capacities of the human mind.

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673 See Section 1.4.3.

674 Cannon, Charlie. “Innovation Studio.” <https://www.idsa.org/charlie-cannon-innovation-studio>, accessed Jan 19, 2020.

675 “Arts Letters & Numbers.” <http://www.artslettersandnumbers.com/>, accessed January 19, 2020.

676 These programmes are described in Appendix 4.

## 5.2 THE PEDAGOGIC CHALLENGE OF CONTEMPORARY UNIVERSITIES<sup>677</sup>

Specialised expertise has become the prevailing denominator of the Western culture. The progressive deepening of each discipline over time has taken all of them to a level that is out of reach of all-round education and common knowledge. Subsequently, the disciplines tend to segregate as the expertise grows deeper. The 'big picture' to which all specialisms somehow connect becomes a significant challenge both within and across disciplines, as it relates also to the public sphere. Knowledge relationships may become distorted from an individual perspective. Insights emerging from other domains cannot be accessed by the individual other than via intuitive means, additional study, or via commercially mediated information. These factors establish the need for a bridging strategy with multiple threads: visual, technical, mathematical, experiential, experimental, artistic and applied.

The societal and cultural challenges we are facing tend to have greater complexity than can be addressed by single disciplines. A pressing need arises for techniques of appropriate collaboration to augment existing strengths. Engineering is often considered, more often than not by the engineers themselves, to be a discipline that includes little creativity, as though creative insight is associated only with certain denominations of work or person. The entrance examinations of the universities underline the presumption of a person being either creative-artistic or scientifically orientated. I argue that this presumed dichotomy is fundamentally false: engineering, as its best, is about finding complex technical solutions to new emerging and unequalled problems and challenges. Both in art and in engineering, the essential is to question the prevailing conditions in order to reveal unexpected and new connections between forms of knowledge. Intuition, critical and creative thinking are equally woven into both art and engineering. Creativity is not a given attribute to any particular activity, but rather an intrinsic human ability that can be eroded by types of education.

The biggest decisions of our lives are formed in a manner rooted in intuition and referenced within our senses and our different forms of knowledge. Perceptions of necessity are thus conditioned. When teaching natural sciences, mathematics and physics, interesting things begin to happen when intuition is acknowledged.

Many universities face the challenge of adapting to their rapidly changing relevance within the societal needs of the future. Universities may no longer be the keepers or arbiters of knowledge or data, yet the emerging need for the university to emphasise the mentoring of complex issues across generations now becomes apparent. In this context, rather than being regarded as an irrational component in scientific work, the intuitive dimension needs to be included within an array of critical thinking skills and practices. Such skills

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<sup>677</sup> Parts of this section are discussed in greater detail in: Hollmén, Saija and Rose, Chris. (2013). ARTS + ENG: Future Collaborative Academic Models at Aalto. Aalto University. The background of the work is presented in Section 1.4.3.

are essential for the intelligent use of language, visualisation, representation and practices within complex domains, and where grassroots activity is an essential source.

In some engineering schools in the world, the first years of studies are taught through projects that go on to be built by the students. This allows them to get physically involved with the phenomena and to gain an embodied cognition of various mathematical occurrences. A phenomenon is best learned and understood when the students are physically and tangibly engaged with it. Mathematical representations of that phenomenon become meaningful through previous experiences of tangible engagement. Critical thinking ability is rooted in this connection because it is infinitely adaptable and prismatic. The best learning outcomes in architecture and engineering alike are achieved through learning by doing, when the students are engaged with the task on both theoretical and practical levels.<sup>678</sup>

The incorporation into effective learning of an acknowledgement of ‘multiple intelligences’, (leading to the promotion of ‘shared insight’ for both the individual and the group), is being developed as a part of sustainable multidisciplinary programmes. ‘Shared insight’ is a useful trial definition of creativity in this context.

Knowledge is no longer possessed by an individual, but rather by a group of people. An expert in a team does not have to know everything: Access to socially constructed knowledge is achieved through teamwork, as we see in the statement: ‘I have access to your knowledge, because we collaborate.’ Continued knowledge-building is a social project; this implies that areas of expertise benefit from strategies which both acknowledge their specific processes while striving to network to the ‘bigger picture’. The involvement of students in the very challenges presented by this endeavour, and the efforts made to address such challenges, is essential to the evolution of critical thinking in all domains of work and in the research that supports them.

An open mind allows us to become the poet of our own discipline: The nuances and spectrum of life become a part of how we reflect on and see the world. Art needs to be recognised as the reflection of our very being in the world. The teaching of a creative process in any disciplinary learning environment enhances the possibilities of finding new, unpredicted strategies for future problems that our generation cannot foresee. The needs of new situations cannot necessarily be addressed with the instrumentalities of the past.

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678 During 2011-12, an Aalto delegation visited the University of Bath, UK, to find out about their educational structures and principles. The Department of Architecture & Civil Engineering at the University of Bath combines the education of first two years for students of architecture and engineering, with joint courses and project work. (See <https://www.bath.ac.uk/departments/departments-of-architecture-civil-engineering/>, accessed Aug 22, 2020). Cross-disciplinary collaboration is initiated at the very first stages of education, laying foundations for future joint projects. (See <https://www.bath.ac.uk/departments/departments-of-architecture-civil-engineering/>, accessed Aug 22, 2020). The curriculum of the programme was designed from scratch to combine dimensions from both disciplines, thus affording deeper mutual understanding.

The national rankings between British universities have repeatedly placed the Bath Department among the best 5. The overall satisfaction in the National Students Survey (NSS) for Architecture & Civil Engineering is 93.13%. (See <https://www.bath.ac.uk/corporate-information/faculty-of-engineering-designs-rankings-and-reputation/>, accessed Aug 22, 2020) The results indicate satisfaction among the students in the chosen pedagogical approach of the Department.

### 5.2.1 The Bridging Elements of Interdisciplinary Pedagogy in Higher Education

The universities play a key role in the bridging of different disciplines. The structures required to enhance cross-disciplinary thinking are integral in the concept of university.<sup>679</sup> Academia is the one place where the diversity of different fields of study is present under one organisation. As condensers of intelligence, the universities possess a potential to make a significant contribution in the development of the societies, serving as incubation centres for new ways of combining areas of expertise.

Students represent a new generation that will encounter a multiplicity of challenges, ways of working, technological breakthroughs and societal transformations currently unforeseen. Without a doubt, they will face the challenge of working in multidisciplinary teams in their professional lives. An interdisciplinary higher education institute such as Aalto University has all the potential to offer these brilliant minds the impetus they need. However, the bridging of disciplines requires an effort, a decisive intention, appropriate personalities and resources for implementation.

What then is the collagen of interdisciplinary pedagogic entities? What keeps together pedagogic structures within which diverse cognitive and intellectual cores may continue to meet effectively? The fact that there are several successful academic programmes in the world that have done the bridging of different disciplines in a comprehensive way proves that it is possible.<sup>680</sup> Common to all of these, however, is that they tend not to be established by combining a number of existing single-discipline components. Instead, they were all designed to integrate two or more fields of study, with a clear ambition to travel over the boundaries during the student experience, while maintaining awareness of the origins of such boundaries. Old structures rarely serve for new ways of thinking – the intertwining of disciplines requires new tools and new approaches to teaching. Embedding an integration strategy into curriculum design is a key factor unless part of the study structure, the crossing over of disciplines, is unlikely to become sustainable.

Aalto University has both the potential of a new organisation, and the momentum, sometimes a burden, of tradition entailed in the previously rather independent faculties. Old structures are not usually flexible enough to support newly created interdisciplinary pedagogic entities. Bridges between the faculties and disciplines are to be created with a specific pedagogic approach. The on-going curriculum and strategy renewals at Aalto University are excellent occasions to embed the cross-disciplinary thinking into the study structures, in order to enhance the collaboration of faculties. Interaction between the former silos calls for an attitude of ‘thinking in-between’, or ‘living on the bridge’. Finding the thresholds, hinges and friction points between disciplines are the practicalities of collaboration.

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679 The terminology and definitions of multi-, inter-, cross- and transdisciplinarity are addressed in Section 5.2.1

680 Programmes such as the Innovation Studio at Rhode Island School of Design (RISD), Arts Letters and Numbers (ALN) and the PBL lab at Stanford University are described in Appendix 4.

### 5.2.2 Cooperation Objectives

The deepening of cooperation between architecture, design and engineering aspires to enhance a broad and interdisciplinary way of thinking. New innovations and social impact and consciousness being the objectives, the key factor is to improve mutual interaction between students from various disciplines. The general objectives of interdisciplinary cooperation may be articulated as outlined in the following paragraphs.

#### *Diffusing the mental barriers between the various disciplines*

The entrance examination, through which the students get elected to study the discipline of their preference, is an integral part of the Finnish university system. Along with the specialisation of the society, the various disciplines have developed into silos within the university. As the students are elected, often from a large number of applicants, they easily adopt an attitude of disparity from the early days of their studies. The structure of independent silos of faculties within the university is more likely to emphasise these attitudes, rather than reduce them.

Through effective collaboration, cooperation and discussion between the faculties, the mental barriers between the disciplines can be decreased. Having the faculties work together on common projects, the students benefit from joint efforts and shared perspectives. Furthermore, the collaboration needs to be embedded into the study structures, and not left only to the responsibility of individuals.

#### *Create friendship between students from different fields of study*

Personal relations and friendships are an important social capital the students gain during their engagement with the university. Some of these friendships last throughout their entire lives and have a deep impact even on their professional careers. If the encounters between the students can be extended to cross disciplines, departments and faculties, we are likely to witness a change in the attitudes of the students as well. Having the students work together for common projects allows them to become friends, to respect and honour one another. This attitude of mutual respect will also affect their professional lives, allowing them to have a broader understanding of each other's perspectives and points of views.

There are good examples of university programmes in which integrated study structures produce not only extremely skilled professionals, but also close friendships that allow the students from different disciplines to consult each other in their various projects.<sup>681</sup> Respect and friendships created in the atmosphere of free thinking are priceless, not only for the individual, but later for the entire society.

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<sup>681</sup> Example from the University of Bath recounted in Footnote 663 in Section 5.1. See also PBL lab at Stanford University described in Appendix 4.



### *Enhance understanding of one's own contextual expertise*

Contemporary societies depend on the expertise of individuals in various fields and disciplines. As the challenges of inhabiting the planet with limited resources are growing, the problems are getting more and more complicated. We can no longer solve them by simply using one or two experts, rather than a team of them. The need for expertise is ever-increasing as the disciplines dive deeper into their respective areas of knowledge.

However, experts themselves will no longer be able to work alone in the context of problems becoming broader and broader in their nature. The capacity of individual experts to position their skills and knowledge in relation to shareable conceptions of 'the bigger picture' is a skill that will be a distinctive characteristic of sustained interdisciplinary practices. Understanding the roles of particular disciplines in a specific context, and the changes they will bring to the understanding of complex systems, will be even more important.

### *Enable development of diversified work in pairs and groups*

Over time, the silo structure of faculties has produced specific and elaborate course structures in all disciplines. These structures are rarely flexible enough to allow views from other fields to enter and effect the core contents of the course and its predefined learning objectives. The simple application of variation theory here can assist in the development of critical thinking both within and across disciplines.

A multidisciplinary course is composed of elements that not merely join two (or more) disciplines but create a deep and positive dependence between them. Woven closely together, the intertwined cross-disciplinary structure allows the students to become aware of thinking processes implicit to the other discipline and to comprehend their correlations.

A teaching curriculum that is fundamentally cross-disciplinary enables the emergence of pairs and groups between students from different fields who value each other's views and standpoints. Subsequently, the development of diversified and multidisciplinary groups and pairs is valuable and relevant to the progress of the whole society. This increases the possibility of shared insight, with crucial implications for shared and perceptible responsibilities.

### *Engender artistic group intelligence and social consciousness*

A team of experts, as its best, is more than the sum of its components. If the individuals grow to assimilate the role of themselves in relation to the others in the team, the dynamics of the group are likely to produce interesting and effective thinking. Knowledge building is a common endeavour, stemming from respect and positive dependence between the group members. When free of hierarchies, the group has the capacity to think as one entity.

The diversity of disciplines in universities creates a unique potential to enable and enhance the emergence of group intelligence, parallel to none. Taking

advantage of this is a pedagogical challenge urgent to our time. Broad-based thinking is a great asset, when the students, the ‘thinkers of tomorrow’, leave the university to become active members in the societies. A cross-disciplinary mindset also provides them with a capability to identify the issues in the society that need addressing, not only on a technical level, but also issues of social justice and equality that require strategic thinking to be developed further.

### 5.3 INTERDISCIPLINARY UNIVERSITY PROGRAMMES<sup>682</sup>

Multi- and interdisciplinary education is currently being widely discussed and promoted in the academic world. Several interdisciplinary programmes are being created, and new curricula formed. One might even argue that multidisciplinary has come to resemble a mantra, repeated excessively, sometimes without taking a closer look at the most appropriate pedagogical approaches, implementations and benefits. The terms multi-, inter- and transdisciplinary are exploited carelessly, without taking a closer look at the theoretical framework or the vast literature on the topic that is commonly accepted by interdisciplinarians. Some critics, such as Jeffrey Wasserstrom,<sup>683</sup> even argue that interdisciplinarity has become so ‘fuzzy’ that universities’ commitment to it is close to meaningless. Undoubtedly, this stems from the fact that the challenges and complex problems of our time desperately call for greater collaboration and integration of insights, knowledge and disciplinary practices. For example, the questions of development in the world majority context (i.e. *the third world* or *the developing countries*) are broad in nature and cannot be addressed with a single or few areas of expertise. The same applies to the environmental and climatic challenges we are currently facing.<sup>684</sup> Contemporary problems cannot be solved with the instrumentalities of the past; integration of disciplines and new forms of knowledge creation are needed.<sup>685</sup>

Interdisciplinarity needs to be incorporated into the fundamental thinking of curricula design, as well as the research agendas of contemporary academia. The question remains: How to bridge the disciplines in such a way that new insights and understanding are created, rather than mandatory curricula requirements superficially fulfilled?

In academia, where the segregation and ever-deepening expertise of disciplines over decades has produced a siloed structure of faculties and departments, it is difficult to overcome the commonly accepted and customary *modus operandi*. The division of the scientific community into ever smaller units as a result of the expansion of expertise has generated a new type of challenge: how to create an understanding of the relations between the diversifying types of knowledge and their sharable insights? Stepping out of the ordinary, looking

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682 Parts of this section are discussed in greater detail in: Hollmén, S. The Pedagogical Challenge of Interdisciplinary University Programs. SYNNTY/ORIGINS, Finnish Studies in Art Education. 2/2015, 1-14. ISSN: 1795-4843.

683 Wasserstrom, 2006.

684 Hollmén et al., 2014.

685 Hollmén and Rose, 2013.

and reaching for the ‘big picture’ to see how things connect, to find new ways of working and taking the trouble of doing things in a different way is time consuming and laborious. Julie Klein<sup>686</sup> aptly refers to an old saying: ‘*Trying to change a curriculum is more difficult than trying to move a cemetery.*’

Part of the problem in academia is the scarcity of pedagogical thinking.<sup>687</sup> Traditionally, researchers and university teachers are expected to be specialists in the substance of their discipline because research is valued more than education – as is indicated by the proportion of funding by which education and research achievements are measured in universities. Only recently have pedagogical studies become available and offered to faculty members, which is likely to increase the level of pedagogical innovation in higher education. However, the contemporary challenges faced in organising cross-disciplinary teamwork and education can be assumed to partly arise from the inadequate pedagogical training of university teachers.

In the following sections, I present some of the challenges and problems that are commonly encountered when attempting to bridge disciplines in a university context. I draw on the processes that took place in Aalto University and its preceding universities, particularly Helsinki University of Technology. A closer look is taken at the collaboration between the disciplines of architecture and engineering. Some aspects of the phenomenon are reviewed from a theoretical viewpoint in an attempt to better understand the various perspectives and alternative ways of knowledge creation when organising the design and implementation of interdisciplinary curricula.

### 5.3.1 Definitions of Interdisciplinarity

The terms multi-, inter-, and transdisciplinarity are often confused, and lack clarity on the terminology. A literature review provides various and extensive definitions on the differences between the terms. Since 1979, the Association of Interdisciplinary Studies (AIS) of Oakland University, Michigan, has promoted the interchange of ideas among scholars and administrators to further integrative studies<sup>688</sup>. AIS’s publication *Issues in Interdisciplinary Studies, as well as AIS’s annual conferences*, have become important fora of contemporary knowledge creation and sharing for interdisciplinarians. The literature also provides useful definitions of the terminology commonly used.

Allen Repko<sup>689</sup> sees multidisciplinary as proximity: placing two or more disciplines side by side, such as inviting teachers from different departments to explain the perspective of their discipline on the course issue in a serial manner, but not necessarily intertwining or integrating their insights. It uses the knowledge understanding of more than one discipline, without necessary allowing for integration.<sup>690</sup> Repko argues: “Merely bringing the different disci-

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686 Klein, 1999.

687 Pedagogical training of teachers at Aalto University is discussed in Section 4.2.1.

688 “Association for Interdisciplinary Studies.” <https://interdisciplinarystudies.org/>, accessed January 19, 2020.

689 Repko, 2007.

690 Ibrahim, Fruchter and Sharif, 2007.

plines together in some way but failing to engage in the hard work of integration is multidisciplinary studies, not interdisciplinary studies.”<sup>691</sup>

Interdisciplinarity uses the epistemology methods of one discipline within another.<sup>692</sup> It draws on more than one discipline’s perspective to synthesise a more comprehensive understanding.<sup>693</sup> As early as in 1997, Klein and Newell provided what has served as the basis for the definitions of interdisciplinarity: “Interdisciplinary studies may be defined as a process of answering a question, solving a problem, or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession.”<sup>694</sup>

Multidisciplinarity is entirely subsumed within interdisciplinarity; it is a necessary but insufficient condition for interdisciplinarity.<sup>695</sup> *Interdisciplinary* or *integrative studies* occur when teachers go beyond establishing a common meeting place to develop new methods and theory crafted to transcend the disciplines in order to solve problems.<sup>696</sup> Organising interdisciplinary curricula requires an understanding of certain aspects of the basic elements of human behaviour in relation to teamwork, knowledge creation and social systems. It is an extremely demanding form of education, which can also have detrimental effects if not properly designed and facilitated. According to Repko, the basic requirements of an interdisciplinary course include:

1. addressing a complex problem or focus question that cannot be resolved by using a single disciplinary approach,
2. drawing on insights generated by disciplines, interdisciplines, or schools of thought, including non-disciplinary knowledge formations,
3. adhering to integrative process, and
4. producing an interdisciplinary understanding of the problem or question.<sup>697</sup>

Boix Mansilla, Miller and Gardner claim that students demonstrate interdisciplinary understanding “...when they integrate knowledge and modes of thinking from two or more disciplines in order to create products, solve problems, and offer explanations of the world around them”.<sup>698</sup> The common misapprehension is that interdisciplinary interaction happens when students of different disciplines are put to work on a problem together. If professionals working in the field find it challenging, it is not likely to be any less demanding for students, who are still refining their professional skills. The challenging task of the teacher is to facilitate the interaction: interdisciplinary collaboration does not happen by itself. It requires active engagement and ‘crafting of oppor-

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691 Repko, 2007:133.

692 Ibrahim et al., 2007.

693 Newell, 2007.

694 Klein and Newell, 1997:393.

695 Newell, 2007.

696 Newell, 2001; Repko, 2005.

697 Repko, 2007:131.

698 Boix Mansilla et al., 2000:17-18.

tunities' where the students can find out for themselves what the other knows, how one's own knowledge can contribute to the task at hand, and how these threads of knowledge are woven together to create new thinking.

Transdisciplinarity is said to be a meta-level approach to interdisciplinarity, which involves multiple disciplines, *and* the space between the disciplines *with* the possibility of new perspectives 'beyond' those disciplines.<sup>699</sup> It engages students to investigate real world problems by using several disciplines, and to discover the non-disciplinary and emerging knowledge '*in-between*' the disciplines. As its best, the teacher-facilitated interdisciplinary collaboration has the potential to rise above expectations and explore the knowledge found in between the established fields, thus creating authentic innovations.

### 5.3.2 Complex Systems in Interdisciplinary Pedagogy

Interdisciplinarity is frequently paired with complexity. In his article, *A Theory of Interdisciplinary Studies*, Newell contends that "...complex systems and phenomena are a necessary condition for interdisciplinary studies".<sup>700</sup> Thus, as noted also by Repko, complexity can be understood as a keyword in the contemporary description of interdisciplinarity.<sup>701</sup> An interdisciplinary course focuses on a problem that cannot be addressed with a single disciplinary approach, nor by using two side by side, or in a sequenced manner – that is to say, on a problem that is complex in nature. An interdisciplinary course by default needs a challenge that allows and requires not only integration of perspectives, but holistic thinking and a possibility for innovative knowledge creation. Repko argues that: "...whereas perspective taking is the ability to understand how each discipline would typically view the problem, holistic thinking is the ability to see the entire problem in relation to its constituent disciplinary parts".<sup>702</sup>

A system is a set of nonlinear relations of separate facets of a problem. Newell, in fact, claims that: "...a complex system is composed of components actively connected through predominantly nonlinear relationships".<sup>703</sup> Viewed from one disciplinary vantage point, the components of a system appear differently from when seen through another perspective. Furthermore, a system changes as the relations of its components evolve. Newell asserts that: "All systems... are made up of components that interact... Because of those interaction effects, the system as a whole is more than the sum of its parts; indeed, it is different from the sum of its parts".<sup>704</sup> The pedagogical challenge in an interdisciplinary course dealing with complex systems is to sense the emerging relations and undefined connections and to allow them to evolve freely, in the pursuance of structuring the course in a meaningful way.

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699 Ibrahim et al., 2007:91-92.

700 Newell, 2001:1.

701 Repko, 2007.

702 Ibid.:134.

703 Newell, 2001:9.

704 Ibid.:7.

As is commonly agreed by interdisciplinarians, interdisciplinary courses that operate in the framework of a complex system become a process rather than a product. Newell discusses the nonlinearity of this interdisciplinary process: “Integration necessitates working backward from the phenomenon and forward from the sub-systems studied by different disciplines. That integrative process is anything but linear”.<sup>705</sup> The nonlinearity and indeterminacy of human behaviour as a complex system challenges education and forces the faculty into constant debate about the didactics of the issues taught and the planning of education.

On the other hand, Klein presents a fairly linear approach to interdisciplinary steps.<sup>706</sup> Although useful in natural sciences and applicable in humanities, taking into account the nature and essence of arts, design and architecture, interdisciplinary processes including these disciplines can hardly be determined as linear rather than cyclic, iterative, self-sustaining and dynamic. New combinations affect and create nonlinear relations within and between systems, creating novel perspectives and unforeseen situations. Each combination produces a different setting and a network of relations. The pedagogy arising from these relations needs to accommodate itself to the prevailing and constantly changing settings.

Local knowledge plays an important role in understanding the specific features of a complex system.<sup>707</sup> Based on my own experiences in architectural and environmental development, for example, in Rwanda, complex problems like development are strongly connected to locality and human behavioural systems.<sup>708</sup> Local knowledge is fundamental in order to understand a community and to identify the common aspirations and local understanding of development and prosperity – as defined by the community itself, not by external actors. Local knowledge is of utmost importance: people’s behaviour in a cultural environment is defined by a cultural coding system, which varies significantly from place to place. Any scientific or behavioural experiment only has relevance in its respective cultural context – people may be the same everywhere, but the cultural coding according to which people behave differs substantially. Thus, from these experiences, I can argue that as a representation of the complexity of a cultural system, architecture is a reflection of customary and cultural coding. Architecture, art and design can be used as a vehicle for combining contemporary scientific innovations in the creation of culturally and locally relevant and sustainable environmental improvements.

Interdisciplinary studies also bring forward the possibility to engage students from industrialised countries in the world majority context in a reciprocal manner. Organising such endeavours requires significant investment from universities. Travelling, with all its costs and cumbersome practicalities, is necessary to get an embodied cognition of a place and a culture. Gaining

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705 Ibid.:20.

706 Klein, 1999.

707 Newell, 2001.

708 Hollmén, 2014.



holistic understanding of a phenomenon is not merely a literature exercise: non-disciplinary knowledge creation is as important in education as is scientific rationale.

### 5.3.3 Communities of Practice and Situated Learning in Interdisciplinary Studies

As discussed earlier,<sup>709</sup> architectural education in Finland is known for its pragmatic approach to teaching. Strong emphasis is traditionally placed on practical matters – students are taught to design buildings, cities and land use, and understand historical values and restoration. In a traditional design studio, learning often happens within the framework of a course that simulates reality: course material includes a real site, a programme, and a ‘client’. The students learn the basics of a design process by trial and error; ‘learning by doing’ is a commonly used teaching strategy, appreciated by many.

‘Learning by doing’ has a strong connection to situated learning theory and the idea of a community of practice.<sup>710</sup> Situated learning theory implies that *learning* means becoming a member of a community of practitioners, and *knowledge* is the ability to participate in a community of practice.<sup>711</sup> Action is situated because it is constrained by a person’s understanding of his or her ‘place’ in a social process.<sup>712</sup> Lave suggests we should “...consider learning as a process of becoming a member of a sustained community of practice.”<sup>713</sup>

To teach is to change a social system in which the activity occurs. In interdisciplinary studies the representations in communities of practice are questioned, as the social systems of a certain community of practice are not valid in a new set of nonlinear relations. A new system, a new community of practice and practitioners are formed in interdisciplinary interaction. Clancey mentions that the strongest effect is not in ‘how to teach’, but in ‘how to change’ a social system.<sup>714</sup> Holistic thinking and the interdisciplinary integration of perspectives transforms the social systems of communities of practice. Learning in interdisciplinary studies is situated because it stems from the activity that takes place in the changing social system and new community of expertise and practitioners interacting.

In university education, students quickly learn to adapt to the conventions of their particular community. Participating means knowing the conventions of a particular society, and, as a social system, the society has its own representations of actions, which become internalised by its members. This in turn sustains the division between disciplinary communities. Creating interdisciplinary programmes is challenging due to the differences in behaviour between established communities of practice in the university context.

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709 See Section 4.2.1.

710 Wenger, 1998.

711 Clancey, 1995.

712 Ibid..

713 Lave, 1991.

714 Clancey, 1995.

### 5.3.4 Sequenced or Simultaneous Design Processes

Attempts to bring students together for multi- and interdisciplinary courses in the university context have often resulted in failure, when the coordination between different threads of information has been insufficient. In tasks where students have to perform their part in sequences, overlapping schedules and division into sections has caused some of them to wait for others to perform before they can take their turn to provide the portion of knowledge and expertise they are to bring to the task at hand.<sup>715</sup> The sequential approach causes frustration among the ones who wait, and exhaustion among those who work under pressure to complete their share in time. No real change in ideas emerge, and no new innovations are made. Disciplines are kept separate, even though the course is technically referred to as being multidisciplinary.

This sequential approach is particularly characteristic of the field of building design. In a traditionally coordinated building design process, the architect starts the process by negotiating with the client about the needs and aspirations the building is to meet. The preliminary architectural sketches are then discussed with the client and alterations are made according to those conversations. (In the university context the client is often replaced by the teacher, who comments on the architectural qualities of the design.) The next disciplines to enter the project are structural and mechanical engineering, with whom the project starts to become more complex and realistic. Construction and project management, and life cycle analysis are brought in at a later stage, if at all.

Although the architectural solutions largely define the overall concept of the finished product, as well as the quality of the built environment, neglecting the other related disciplines in the early stages of a building design process has its obvious defects. Structural and mechanical engineering as well as life cycle analysis have become highly complicated and demanding areas of expertise and the solutions chosen for these areas increasingly affect the end result. Should they be included in the very beginning, one could expect better integration of overlapping systems and technologies in the building, resulting in more sustainable and intelligent use of resources. All in all, one can claim that the sequential approach to building design is an outdated procedure, whereas today's reality calls for the integration of disciplines from the very early stage of the design process.

### 5.3.5 Challenges of Teamwork

Teamwork is expected to be a form of learning that enhances mutual understanding and engages individuals in a process that is more productive than an individual project might produce. In their article on team work, Gavriel Salomon and Tamar Globerson confirm that studies show that “Generally speaking, teamwork affords the externalisation of thought processes, the comparison of alternative perspectives, social facilitation and socially monitored

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715 Hollmén & Paavola, 2012.

attentiveness to the task”.<sup>716</sup> However, this is not always the case because there are social-psychological effects that can debilitate team performance. Although it is commonly known by educators that teamwork possesses challenges and does not always function in an ideal way, the literature showing this is scarce. Salomon and Globerson assert:

A team is a social system, and as such it is a qualitatively different entity than a few individuals working alone side-by-side. Behaviours and cognitions in the group have two major characteristics: they become interdependent and this interdependence develops over time in a reciprocal manner. This developing interdependence implies that individuals’ cognitive processes affect and become affected by the ones of the other team members... Such social cognitions both affect the social interaction and result from it.<sup>717</sup>

Like human behaviour in general, the emerging team interdependencies are unpredictable and unforeseen to some extent. As its best, a team performance becomes more than the individuals alone could have achieved. At its worst, teamwork can have detrimental, even disastrous effects on the learning, motivation, performance, and commitment of team members. Salomon and Globerson list some of the debilitating effects of teamwork:<sup>718</sup>

### **1. The ‘Free Rider’ Effect**

If a member of the team is particularly talented and hard-working, other members of the team can easily leave the task to the other, who would perform well in any case, thus taking the role of a ‘free rider’. The ‘free rider’ effect can also develop in a task that depends on the least able member, when the more able feels unmotivated. The effect is best avoided in additive tasks, where team performance equally depends on the contribution of all its members.

### **2. The ‘Sucker Effect’**

If a talented member of a group feels that his or her abilities are being exploited, he or she might become frustrated about being taken advantage of. As a result, both the talented and the exploitative members lose their motivation for the task at hand.

### **3. Status Differential Effects**

According to Dembo and McAuliffe, those group members who are regarded to have a higher social status tend to dominate group activity, and are more likely to receive and give help than members with lower social status.<sup>719</sup> They affect the group’s final solution more than their fellow group members by gaining additional social influence within the group. In such conditions the team’s optimal learning potential is not achieved.

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<sup>716</sup> Salomon and Globerson, 1989:90.

<sup>717</sup> Ibid.:93.

<sup>718</sup> Ibid.:94-95.

<sup>719</sup> Dembo and McAuliffe, 1987.

#### 4. 'Ganging up on the Task'

In some occasions the group starts to do its best to avoid the given task, and uses an excessive amount of energy to do the least possible amount of work to pass. If a member of the team is willing to put an extra amount of work into the task, the effort is welcomed, but no help will be provided by the others.

Other effects, like systematic segregation of the task (when someone always does the typing, someone does the graphics, etc.) can occur if the team works together for a sufficiently long time. Competition between team members or teacher dependency can also have negative effects on group work.

In addition to listing the detrimental effects, Salomon and Globerson also present a number of factors that can help to avoid the negative effects mentioned above.<sup>720</sup> Competition between groups (intergroup rather than intragroup) is one, while another is group dependence, where the task requires complementary components from different groups. Task-related interdependencies among team members seem to be the best motivators for engaging in the task.

In general, it seems that the best results in teamwork are achieved when the given task is additive in nature. To engage all the members of the team, the collaboration needs to be designed in such a way that all members become indispensable, regardless of their social status, leadership abilities or individual talent. In a cross-disciplinary course setting, the members of the team possess expertise, skills or abilities that the others do not have. It affords a framework where all members can contribute and be part of common knowledge creation as equal team members. In order to make the contribution of all members valid and simultaneous, the task needs to be engaging and to allow the participation of all group members at all stages of the task.

#### 5.3.6 Bridging Disciplines in Universities

Forming a new pedagogy that addresses the various needs and ways of teaching different contents and subjects requires combining different didactic practices. The planning of multidisciplinary university programmes includes several levels and layers, where the objectives and outcomes of this new pedagogy need to be defined.

The curriculum in a larger context defines how inclusive or exclusive the programme is to be. Course planning defines the assignment level and the need for personal guidance and tutoring. These are important enablers of interaction, which are in fact the facilitators of learning. Students also become aware of their own expertise in interaction between students from different disciplines.

The challenge of interdisciplinary programmes is to secure the growth, deepening and maturing of the students' own expertise in the discipline they consider their own. As much as communication and integrative collaboration

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<sup>720</sup> Salomon and Globerson, 1989.

between disciplines is needed, special know-how and penetrating expertise cannot be compromised either; enough adequate disciplinary education still needs to be provided. As important as interdisciplinary interaction and holistic thinking is, separate fields of education still form the solid basis for growth in deepened expertise. However, exploring the relations of the disciplines already in undergraduate education allows the students to comprehend the 'big picture' of our time, with all its nonlinear relations and evolving complex systems.

Common to the best contemporary practices of interdisciplinary, or *in-between-pedagogy*, is that they are not composed by merely combining existing curriculum components, but rather by forming new combinations to start with a fresh approach.<sup>721</sup> These new insights include teamwork skills, situated learning skills and experience, contextualised expertise, and an understanding of non-disciplinary knowledge creation. With these components, and ones yet to come, we can expect new measures for interdisciplinary studies to occur.

## 5.4 CONDITIONS FOR CREATIVE THINKING AT UNIVERSITIES

In the previous section I discussed the conditions and challenges of interdisciplinary education, of teamwork and curriculum design when bridging disciplines. The elusive nature of interpersonal relations makes the non-linear processes of inter- and cross-disciplinary programmes unpredictable.

The access and entry points to the *in-between* areas of disciplines are difficult to identify – albeit necessary in the pursuit of genuinely inter- and transdisciplinary education. Artistic processes provide one possible way of addressing the transformation of disciplinary and pedagogical thinking by linking diversified dimensions of knowledge and understanding stemming from different cultural origins. They provide education and research that connects rather than divides. Holistic thinking, interdisciplinary education and research connected to deep expertise and creativity understood as a human capacity – these are useful elements and building blocks in higher education that aims to educate future generation that will shape a more resilient planet and sustainable ways of living.

In the pursuit of new instruments for holistic thinking<sup>722</sup> and non-trivial relations between disciplines, it is useful to promote new ways of thinking about how to access the creative processes of the human mind, and to develop pedagogies for achieving this in the context of multidisciplinary higher education institutes. The objective is to enhance understanding of the relations between the diversifying types of knowledge and their sharable insights, and find entry points to those *in-between* areas across disciplines. Creative processes serve as a means for us to become autonomous thinkers and break us out

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<sup>721</sup> Hollmén and Rose, 2013.

<sup>722</sup> '...holistic thinking is the ability to see the entire problem in relation to its constituent disciplinary parts'. Repko, 2007:134.

of the boundaries that constrain,<sup>723</sup> to gain the ability to dwell in the uncertain and to maintain our capacity for life-long and life-wide learning.

The qualities and dispositions described in the following paragraphs serve as vehicles and access points to such processes, connecting across cultural conditions.

#### 5.4.1 Role of Art and Creativity

Art, as such, is not useful in the utilitarian meaning of the word. For an artist, art as such is purposeless.<sup>724</sup> The meaning of art is to engage us in the quest of the essence of humanity, to connect us with our deepest experiences of what it means to be human.

Nonetheless, arts can be applied in a useful manner. Design professions make use and apply artistic processes and interaction by redefining and reframing our practices. Design can help us to interpret the world in ways that lead to new actions.<sup>725</sup> The arts take us out of our heads and into our bodies, hearts, and souls in ways that allow us to connect more deeply with self and others.<sup>726</sup> Art is the expression of our cultures, connecting us with the trajectories of time across communities and individual aspirations.

Creativity, however, is not a prisoner of art.<sup>727</sup> Creativity is a human capacity, possessed by us all. A child is capable of divergent thinking and learns by questioning and wonder. We tend to lose some of that capacity as we enter the systematic machineries of education and societal pressure. Nonetheless, creativity remains a quality that we all have, albeit more prominent in some than in others. It is a quality that can be cultivated, learned and furthered in every individual and community. Creativity is an attitude, like a skin that cannot be taken off once adopted.<sup>728</sup>

Artistic and creative processes are conditions inherently marked by uncertainty and not-knowing. Should we engage in an undefined and unpredictable process of doing, sharing and experimenting, we cannot possibly know where the process will lead us. Creative processes are non-linear and iterative, and new directions and perspectives emerge as the process evolves. It requires courage to take new and unexpected paths, and venture out of one's comfort zone, where personal engagement and risk taking are required. A creative process may lead to unexpected results, but failure should be embraced and celebrated as a major achievement and opportunity, as an inevitable component of risk taking, and as a prerequisite for learning and future innovation.<sup>729</sup>

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723 Lawrence, 2012.

724 Comment by Mathew Wilson at 'U-Create Seminar on Creativity 2019', Aalto University, November 29,

725 Dorst, 2017:10.

726 Lawrence, 2012:471.

727 Bertram, 2019.

728 Ibid..

729 Hollmén and Rose, 2013.



### 5.4.2 Non-Disciplinary Knowledge Creation

Non-disciplinary knowledge creation occurs in situations and relations between individuals. It is sensory, tactile, visual or auditory and it informs our intuition about the right directions a project needs to take. In group work, it is the glue that helps to keep teamwork together and allows for mutual trust to grow between the team members.

The hermeneutics of complex knowledge creation involves as much embodied cognition as intellectual and scientific rationale. Sociologists speak of 'embodied', 'distributed' and 'situated' cognition as different types of knowledge formation that we need to appreciate. Knowledge creation is a cyclic and iterative process. In creative scientific and artistic processes alike, new relations between varying threads of knowledge emerge – the kind of tacit knowledge inherent in excellence and expertise.

In a logical system, every relation has to make sense, whereas creative and artistic thinking is based on not-knowing and incomprehensibility.<sup>730</sup> It explores how experience turns into knowledge. Creative thinking is a human capacity that can be re-learned and cultivated – not as an additional component, but as an attitude that profoundly affects our ways of working.<sup>731</sup>

Knowledge building in creative processes can be determined as cyclic, iterative, self-sustaining and dynamic. This includes bridging disciplines in such a way that new insights and understanding may emerge. New combinations affect and create nonlinear relations within and between systems, creating novel perspectives and unforeseen situations. Making unprecedented syntheses is what makes us the species we are. Each combination produces a different setting and a network of relations. The pedagogies arising from these relations need to become accommodated to the prevailing and constantly changing settings.

The arts – or rather the artistic attitude in general – play an integral part in forming an understanding of non-disciplinary knowledge creation, and the interdependencies of the mind. Exploring these intuitive and non-linear processes is equally beneficial for scientific research. Exploiting various modes of sensory thinking, doing, making and experimenting can help us position and reposition ourselves in the world.<sup>732</sup> Allowing these realms to collide – allowing movement between the conscious and unconscious dimensions of knowledge – is a potential way to increase our capacity to understand the world.

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730 Shah, 2019.

731 Bertram, 2019; Groth, 2017; Kosonen and Mäkelä, 2012; Mäkelä and Löytönen, 2017.

732 Hollmén, 2015.

### 5.4.3 Learning as a Transformative Experience

Engaging in a creative process may lead us to face a ‘disorienting dilemma’, which forces us to confront our otherwise tacit ways of thinking, thus becoming aware of them. This can lead to a process of reflecting critically on one’s own experiences, assumptions, beliefs, feelings, and mental perspectives in order to construe new or revised interpretations of the world. Learning can thus become a transformative experience, leading to a deep shift in perspective during which our habits of mind become more open and justified. This can only happen voluntarily, through discourse and active communication with other learners.<sup>733</sup> The arts possess the capacity to transform our individual and collective worldviews and can help us to connect with others and ourselves more deeply.

To become critically reflective of one’s own assumptions enables the process of becoming an *autonomous thinker*. It is the key to transforming one’s taken-for-granted frames of reference, meaning perspectives and habits of mind.<sup>734</sup>

The dispositions that enable us to go forward in the process of learning are equally important, such as the will to learn, to engage and the preparedness to explore. The qualities such as *courage, resilience, self-discipline, integrity* and *criticality* colour that forward movement of becoming autonomous thinkers, giving it ‘character’. Just as much as life-long learning, transformative learning involves life-wide learning, which allows learning across one’s life experiences.<sup>735</sup>

Emotional dimensions constitute an integral part of humanity and our individual personalities. Learning is also an emotional process.<sup>736</sup> Emotions – not referred to here as something uncritical or romanticised sentimentality, but an inherent part of our human existence – may provide a powerful vehicle and an access point to the creative and intuitive, tacit and unconscious processes of the mind. Becoming connected with one’s own intuitive and emotional capacities is a way to non-disciplinary knowledge creation and embodied cognition of the hidden dimensions of our learning experiences.

Individual and collective knowledge, taken-for-granted ‘truths’, and canonised theories or practices may become obstructions in the search for new ways of working.<sup>737</sup> Becoming aware and un-learning those habits of mind, as well as our embodied habits of working that hinder us from creating new ways of thinking, is of critical importance. This involves both individual and collective questioning and reframing the prevailing conditions. Unlearning gives way to relearning and working towards new interpretations and relations between multiple forms of knowledge creation. Unlearning means moving away from ordinary structures and habits of working, to give space for new kinds of processes to emerge.

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733 Cranton and Taylor, 2011.

734 Mezirow, 2003.

735 Barnett, 2012b.

736 Dirkx, 2006.

737 Krauss, 2019.

#### 5.4.4 Thinking beyond Disciplinary Boundaries

Interdisciplinary studies may be described as the process, rather than the product, of addressing a topic that is too broad or complex to be dealt with by a single discipline or profession.<sup>738</sup> Interaction between the former disciplinary silos calls for an attitude of ‘thinking in between’, or ‘living on the bridge’. Leaving one’s comfort zone, to find the thresholds, hinges and friction points between disciplines are the practicalities of collaboration.<sup>739</sup>

Disciplines are products of their own time and cultures, not indispensable constants in their own right.<sup>740</sup> The irresolvable supercomplexities that surround us<sup>741</sup> are best addressed by abandoning the prevailing disciplinary boundaries and developing attitudes that allow us to effectively surpass them.

Learning in interdisciplinary studies is situated in that it stems from the activity that takes place in the changing social system and new community of expertise and practitioners interacting. In interdisciplinary studies the social systems of a certain community of practice are questioned in a new set of non-linear relations. A new system, a new community of practice and practitioners are formed in interdisciplinary interaction.<sup>742</sup>

Transdisciplinarity means we no longer superimpose meanings or elements on top of each other, but rather allow them to merge into new entities of meaning. Interdisciplinary collaboration requires active engagement, both from students and teachers alike, and ‘crafting of opportunities’ where the students can find out for themselves what the other knows, how one’s own knowledge can contribute to the task at hand, and how these threads of knowledge are woven together to create new thinking.<sup>743</sup>

Knowledge is no longer possessed by an individual, but instead by people in groups. Students in higher education are adults who all possess a unique body of knowledge, experiences and skills. Collaboration requires that the base of experience of all learners is acknowledged and appreciated. Continued knowledge-building is a social project. The focus is on communication and interpersonal skills, which allow us to connect with others, to share and exploit common and individual knowledge bases that become available through teamwork.<sup>744</sup>

Language actively forms and structures our understanding of the world. The meaning of words referring to objects or subjects in one discipline may have even reversed connotations in another. Language is not used in isolation. In the processes of becoming aware of the colliding ways of diverse knowledge creation, we must acknowledge the use of language as inadequate and insuffi-

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738 Newell, 2001.

739 Hollmén and Rose, 2013.

740 Mattern, Shannon. “The New School 2019 Orientation.” <https://wordsinspace.net/shannon/2019/08/26/new-school-2019-orientation-keynote/>, accessed September 4, 2020.

741 Barnett, 2000.

742 Clancey, 1995.

743 Hollmén, 2015.

744 Bridges, 1993.

cient. Artistic processes allow us to transcend linguistic barriers and connotations and create new meaningful expressions for contemporary phenomena.<sup>745</sup>

The need for collaboration and co-creation when working on contemporary challenges brings forward the question of authorship. The western idea of the one creator-mind, who can claim ownership of an idea, product or work of art, is fundamentally outdated in the context of co-creative communities.<sup>746</sup> Promoting the education of creative processes in an interdisciplinary higher education context requires abandoning the idea of solo authorship, and focusing on the creative potential of the collaborative and interpersonal dimensions of knowledge creation processes. Design approaches can serve as facilitators in these co-creative processes.

There are many successful examples of non-trivial relations between art and science.<sup>747</sup> The praxis has in fact existed for centuries: we have artists, projects and art communities who work with scientists, engineers and economists, creating artworks that exploit scientific methods and techniques. We have scientists who engage in artistic processes to produce wonderful artworks that connect across cultural interpretations. There is no doubt that these practices are of value, providing insights for a larger audience.<sup>748</sup>

However, in a higher education institute with a multidisciplinary infrastructure that has a capacity to connect across disciplines, it is not enough to rely on the praxes of a few. Instead, we need strategies that can introduce creative thinking to the very core of our education and research activities – across disciplines and cultural conditions. By exploring and exploiting creative methods and practices, we can cultivate creative and critical thinking into an attitude that will allow us to embrace new and emerging ways of viewing the world, free of prejudice and connected in diversity.

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745 Schmid, 2019.

746 Cramer, 2019.

747 Bertram, 2018.

748 Zielinski, 2019.

## 5.5 CONCLUDING REMARKS

In Chapter 5, *Interdisciplinary Pedagogies in Higher Education*, I have outlined some of the challenges, risks and possibilities of interdisciplinary pedagogies, and reflected on them in the context of higher education. Informed by the development processes between architecture and engineering that took place at Aalto University,<sup>749</sup> I presented some objectives that would be relevant for interdisciplinary student collaboration, such as diffusing the mental barriers between disciplines, creating friendship between students from different fields of study, enhancing understanding of one's own contextual expertise, enabling development of diversified work in pairs and groups, and engendering artistic group intelligence and social consciousness.

Seeking to answer the question '*What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?*', I discussed the various definitions of multi-, inter-, and transdisciplinarity, and how interdisciplinarity would be facilitated in university education.

I debated the pitfalls of sequenced design processes, which can cause frustration among participants if their input is not valued and taken into consideration from the start, and some ideas of how to avoid harmful practices, allowing new communities of practice to emerge.

Interdisciplinary education, being a demanding field of education, can benefit from informed creative and artistic practices and attitudes. Creativity is a human capacity and a quality that can be cultivated, learned and furthered in every individual and community. Acknowledging knowledge building as a creative process and fostering the creative potential all individuals have are vehicles to access the *in-between* areas of disciplines and to facilitate innovative, flexible and adaptive systems and communities. These qualities are of value when we explore the complex and diverse challenges of globalisation and societal development.

In the next chapter, I will discuss the question '*What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?*', by reflecting on some of the pedagogical endeavours at Aalto University and its predecessors, as well as outlining possible new directions.

Next page: Bogolan from Mali.  
PHOTO ANNE KINNUNEN

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749 See Section 1.4.3: ARTS+ENG Collaboration at Aalto University.









Djembe from Senegal.  
PHOTO ANNE KINNUNEN

## Chapter 6

# PERSPECTIVES ON THE GLOBAL SOUTH<sup>750</sup> IN UNIVERSITY EDUCATION

## 6.1 INTRODUCTION

In recent decades, many Western architectural schools have taken up the challenge of tackling global polarities and humanitarian crises.<sup>751</sup> Educational programmes that raise awareness of the ‘south – north’, ‘developing – developed’, ‘poor – rich’ dichotomies are all asking the same question: What is the role of architecture in the globalising world? New roles for architects are emerging, as we learn to look at the opportunities around us differently. Global challenges also present a possibility to widen the scope of the profession and to reach out to other disciplines that are equally important in the common search for viable solutions to global crises.

As was noted in the introduction to PART II,<sup>752</sup> mainstream architectural education currently still lacks an appropriate education that would prepare students to work in challenging interdisciplinary and intercultural situations with vulnerable communities. Education in humanitarian architecture is still mostly considered to be marginal, although attitudes are starting to change. With the changing geopolitical emphases, the countries of the Global South are becoming more potential partners in educational programmes. It is a welcome shift in the mindset of western universities that they consider partnerships that do not necessarily rely on the western ‘top quality’ thinking, but also those that have *potential*, and possess the best possibilities for holistic capacity building in their own societies.

At Aalto University’s Department of Architecture, since 1993, there has existed a small but consistent threat to education that concentrates on issues related to global sustainability and humanitarian challenges.<sup>753</sup> With theoretical background studies as prerequisites, the courses have taken architectural students to different cultural contexts to work with low-resource communities in the Global South.

In this chapter, I will analyse some of the learning and directions that have arisen from these endeavours, and how the accumulated knowledge would allow us to move forward in the fields of education in global sustainability and societal development.

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750 ‘Global South’ is a term frequently used in academia, adopted by the United Nations and the World Bank (Hollington et al., 2015). It refers to the low and middle income countries located in Africa, Asia, Latin America and the Caribbean, as opposed to the high-income countries of the ‘Global North’ (Mitlin and Satterthwaite, 2013:13). Instead of being geographically accurate, it is thus more related to “an economic division between rich(er) and poor(er) countries, with most people in the so-called Global South actually living in the northern hemisphere”. (Hollington et al., 2015). The term was first used as an alternative to ‘third world’, ‘developing countries’ or ‘less developed countries’ (Mitlin and Satterthwaite, 2013:13).

751 International examples of university programmes with a focus on the Global South include those at Berkeley, Harvard, MIT, TU Delft, Cornell, Yale, Stanford, Oxford, Cambridge, KTH and Washington, to name a few.

752 See Section 4.1.

753 See Section 1.4.4.1 Education on Global Development at HUT.

## 6.2 EDUCATION IN HUMANITARIAN ARCHITECTURE AT AALTO UNIVERSITY<sup>754</sup>

Along with the transformation of development cooperation from top-down governmental actions to more grass-root community involvement, more possibilities for smaller actors to participate and become active have emerged in the field of global sustainability and societal development of low-resource communities. Whilst the international discourse on humanitarian architecture has evolved, some university programmes have established a role as intermediators between different stakeholders in development work, emphasising the importance of a well-designed built environment as a human right.

The contemporary generation of university students expect the universities to respond to the challenges of globalisation and offer education that would touch upon issues that they consider meaningful and relevant in relation to the ongoing societal and environmental crises.<sup>755</sup> Their sense of self and responsible attitudes toward the society is a hopeful signal worth acknowledging, although educational conventions tend to be tardy in reacting to changing attitudes. As Pallasmaa has said:

...architectural education nowadays, practically everywhere, tends to regard architecture as a given, objectified and rational discipline, and the issues of the student's personal identity, cultural grounding, sense of self, and view of the world, are hardly consciously touched upon. Architecture is often taught as a preconceived discipline and formalised profession, disregarding the existential, mental, philosophical and ethical dimensions of building or the personal identity and values of the individual designer.<sup>756</sup>

Even though many international universities have taken up the challenge to offer courses and programmes in global issues, development and risk management, it often remains marginalised and seen as an 'alternative' way of thinking about architectural education.<sup>757</sup> A wide international discourse is needed, to reconsider the capacities of design professions, such as architecture, in responding to global crises. It would be useful for architects to learn how to articulate the untapped potential their education is producing, to move away from the detrimental effects of *starchitecture*, and already start talking during their education to other disciplines and communities with respect and empathy.

Whilst globalisation is shaping the way we work and act in the world, architectural education is still searching for ways to embrace and learn from disciplines such as cross-cultural psychology, anthropology and sociology,

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754 Parts of this section are discussed in greater detail in: Hollmén, Saija. Introduction. In Hollmén, S. (editor). 2018. *Interplay of Cultures: 25 Years of Education in Global Sustainability and Humanitarian Development at Aalto University*. Aalto University & Museum of Finnish Architecture.

755 Lepik, 2011:18.

756 Pallasmaa, 2018.

757 Charlesworth, 2014:2.



Kouk Khleang Youth Center in Phnom Penh, Cambodia, by KOMITU Architects. The project stemmed from Interplay of Cultures studio, reviving local bamboo construction tradition.  
PHOTO SUSANNA ALATALO



and invest in transferable skills.<sup>758</sup> Solid design skills will always be the basic prerequisite, such as the understanding of scale, materiality, spatial arrangements and their cultural adaptations – human dignity manifested in architectural form – but in addition, a professional designer in the humanitarian sector needs both transferable skills and dispositions such as courage, humility, resilience and adaptability<sup>759</sup> in order to promote participatory and collaborative design.

### 6.2.1 Interplay of Cultures Studio

As recounted in the earlier chapters, the Interplay of Cultures studio<sup>760</sup> at Aalto University was first developed and led by the architects Hennu Kjisik and Veikko Vasko. In 1992, Harris and Kjisik wrote:

It is of utmost importance to stress that any design task in the third world is likely to include an extremely complicated set of interwoven problems which require a far more careful analysis than what we are used to dealing with in our normal work.<sup>761</sup>

The *Interplay of Cultures* studio course initially focused around the notion of understanding the ‘other’ of cultural analysis and interaction. *Interplay* refers to reciprocity, which in turn is about mutual dependence, action or influence.<sup>762</sup> The studio explores questions such as how can we learn to avoid ethnocentrism, gain scientific, sensory and embodied knowledge despite geographical boundaries, and learn to respect other views and ways of manifesting human existence in built form. The studio applies and exploits the principles of transformative learning theory<sup>763</sup> and Problem Based Learning.<sup>764</sup>

The course has concentrated on careful analysis and learning about local conditions, in communication with local stakeholders and communities, and listening to the needs and aspirations of the local people – not about providing quick solutions, nor “about throwing up unrealistic ideas of our own,” as Kjisik puts it.<sup>765</sup> From the beginning, it was not about romanticising or dwelling in the exotic, but rather in the honest attempt to understand the ‘other’. It was about pondering the values on which we base our profession, and the moralities we choose to follow in our practices – and what we can learn from ourselves when venturing out into the unknown. It was, and still is, about mutual learning and respecting other ways of seeing the world.

Taking a few steps away from one’s own cultural realm has provided an important moment of reflection for all participants. In the world of constantly

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<sup>758</sup> Davis, 2018. See Section 4.4.1.

<sup>759</sup> Barnett, 2012:75.

<sup>760</sup> See Sections 1.4.1 and 1.4.4.

<sup>761</sup> Harris and Kjisik, 1992.

<sup>762</sup> Merriam-Webster. “Reciprocity”, accessed July 8, 2019.

<sup>763</sup> See Section 4.4.1.

<sup>764</sup> See Section 4.4.2.

<sup>765</sup> Kjisik, 1992.



Kouk Khleang Youth Center in Phnom Penh, Cambodia, by KOMITU Architects.  
PHOTO SUSANNA ALATALO

mingling motifs and influences, Pallasmaa emphasises that “acknowledging one’s own mental points of origin is invaluable.”<sup>766</sup> Over the years, the courses and field trips have exposed approximately 400 architectural students to varied cultural experiences, providing a possibility for them to explore the everyday phenomena of varied cultural environments and the ways they connect to the built environment. Adapting to cultural differences and unknown contexts have developed the students’ ability to work professionally in unfamiliar and unexpected situations.

The focal point – or *raison d’être* – of the course has always been more in the theoretical exercises, creating understanding and providing tools for analysis. However, a few student projects have led to realisation, as the particular individuals have proceeded to realisation through a fundraising process without an actual commission.<sup>767</sup> Some of the examples have been internationally recognised, some have also been significantly important in re-introducing traditional building materials that have clear benefits in construction compared to industrially produced and more recent alternatives. All of them communicate a passion for good architecture and a sense of global responsibility. Realising projects was never the task of the University, but the examples show how profoundly significant the experience was to some, and how it shaped their professional and personal identities, attitudes and ways of working.

<sup>766</sup> Pallasmaa, 2017:48.

<sup>767</sup> See Section 1.4.4.1.



### 6.2.2 The Controversy of ‘Academic Tourism’

In a humanitarian context of societal development, it is quite impossible to gain an understanding of local conditions without physical engagement. In the framework of higher education related to community participation, getting acquainted with cultural, environmental and site-specific features requires travelling and dwelling on the physical site. Participating on a field trip is a prerequisite for a university course that deals with local development projects.<sup>768</sup>

However, the emergent phenomenon of ‘academic tourism’ has a dubious tone to it. Tourism as a concept is usually connected to leisure and free time, exercised by people with excess financial resources. The implications to local communities may well be economically positive, but the risk of cultural exploitation, overcrowding, environmental degradation, societal inequality and uneven distribution of profit looms behind the scene. When assessing the contemporary Western architectural schools’ design/built projects in ‘developing’ countries, Tomà Berlanda went even further than ‘academic tourism’ in his critique, defining the phenomenon as ‘educational colonialism’:

Kigali Master Class 2014, Rwanda.  
PHOTO SAIJA HOLLMÉN



<sup>768</sup> During the final editing phase of this thesis, the COVID-19 pandemic is shaking the world. International university field trips are banned for the moment and replaced by virtual tools for learning. The situation highlights the complexities, interdependencies and uncertainties of our time, as we are headed towards an unknown future and an inevitable ‘new normal’.

The proliferation of the Western quest for exotic adventures has led to a new form of educational colonialism, where it is extremely hard to see how the important material means employed by foreign agents contributes to redress growing global inequality, or at the very least improve local capacities and skills.<sup>769</sup>

University students on a field trip are not wondering tourists on holiday, but are instead representatives of their institution – hence, a level of professionalism is required. Their attitudes are expected to communicate respect and a willingness to listen and learn, and participate in the daily activities of the community, when allowed and invited. In the context of the *Interplay of Cultures* studio, we make an effort to learn from the mistakes of previous generations, and educate our students to understand the implications of their presence and actions in low-resource communities. The curriculum and the agenda of the field trip are clearly articulated and the students' placement structured and supervised in line with the course requirements, to avoid any harm to the community. The local partners who are willing to participate and commit their time and effort in the students' learning are also explicitly made aware of their role and its requirements and benefits to avoid the risk of exploitation.

One might argue that the patronizing attitude of the former colonial regime is quite outdated, as is the concept of 'development aid'; a more inclusive approach is to base the communication and cooperation on respect and reciprocal trust, on mutual exchange of information and knowledge creation.

### 6.2.3 Rules of Behaviour

An integral part of the *Interplay of Cultures* programme is interaction and communication with communities and individuals in the global south, and with people representing cultural realms sometimes very different from the western context. The programme includes prerequisite courses during which students face questions on globalisation and development small and large, and prepare for the field trip experience by expanding their knowledge base. For communication and encountering people, we provide simple guidelines, which have proven to be appropriate in almost any project involving underprivileged communities:

- Set your ego aside, respect people with empathy.
- Do not criticise openly.
- Think of positive sides and learn to articulate them.
- Do not engage in something you cannot fulfil.
- Be clear about your objectives – do not raise false expectations.
- Appreciate people's time and thank them appropriately.
- If invited to their homes, observe their habits and imitate.
- Always be respectful and consider the elderly.

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769 Berlanda, 2015.



Kigali Master Class 2014, Rwanda.  
PHOTO REKO LAURILEHTO

Most of these guidelines are basic courtesy, but the imbalance between the reality of a low-resource community and a group of white students can easily create situations where managing expectations may be challenging – for officials and communities alike.<sup>770</sup> Often the presence of local students is helpful, or simply sitting down and explaining carefully what they have come to learn. Connecting with the everyday activities of communities, for example cooking, playing football with village kids or sharing a drawing, can help lower the barriers and engage with the community members.

#### 6.2.4 Lessons Learnt

The *Interplay of Cultures* studio course aims at providing the students with a comprehensive learning experience, in which the students themselves have an active role in the creation of knowledge. It requires a common endeavour to find the best alternatives for the communities, and to formulate their own projects to support each other in the specific context. From a pedagogical standpoint, the prevailing social constructive and transformative views of learning guide students to find their own learning zones by sharing information. Students are strongly involved in the common learning process; the contents are defined and constructed by the students themselves. Groups rather than individuals produce knowledge in productive collaboration with several intertwining disciplines.

<sup>770</sup> Madrigal, 2016:27.



Interplay of Cultures studio, Zanzibar 2018.  
PHOTO SAIJA HOLLMÉN

Embracing uncertainty becomes an asset when the students need to enter into interaction with new communities and unfamiliar situations. It helps them to learn the very skills required to overcome prejudice, bias and suspicion in themselves, allowing them to see further and wider than before.

Questioning the prevailing conditions and thinking out of the ordinary is an ability we have sought to cherish and cultivate in our developing educational models. The *Interplay of Cultures* studio course seeks to concentrate on the essentials of architecture, urging everybody to examine what kind of cities and buildings are needed and appropriate in furthering the sustainable development of human settlements.

#### 6.2.4.1 Alumni Survey

In late 2017 and early 2018, when preparing for the 25-year jubilee exhibition of the *Interplay of Cultures* programme,<sup>771</sup> a web survey was conducted among the alumni of the programme.<sup>772</sup> Out of some 200 alumni whose email addresses we were able to track down, we received 40 responses. Thirty-nine of them allowed their answers to be anonymously quoted. The number of responders was not extensive, but the answers provided some valuable insights into the

<sup>771</sup> Hollmén, 2018. Between September 2018-January 2019, the Finnish Museum of Architecture hosted the exhibition 'Interplay of Cultures - 25 Years of Education in Global Sustainability and Humanitarian Development at Aalto University'.

<sup>772</sup> Between 1993 and 2018, the courses have run under other names, such as World Architecture and Planning, City in Crisis and Cities in Transition.

effects and consequences that the programme had had on some of the alumni.<sup>773</sup>

The survey included questions on what impact the course had had on the personal and professional development of the students. When asked ‘Did the course impact on your PERSONAL LIFE and THINKING?’ and ‘In what way?’, the replies highlighted learning opportunities with a transformative effect:

*I found the in-situ experience in Benin quite transformative both personally and professionally: it developed my interest in world travel, particularly to the developing world and it made me consider how we can be much more considerate of the materials that we use and how we can be more resourceful in designing in particular environments.*

*I see and understand the world, people and myself in a deeper and a more wholesome way after the course.*

Answers also communicated an awakening social awareness and a deeper understanding of the realities of the world majority context:

*The course was an eye opener for the developing country realities and the problematic of development... I feel that the course gives a welcome understanding of the world that we live in and the dependencies, responsibilities and solidarity that we should have.*

*City in Crisis was one of the most interesting course I had the opportunity to follow during my studies. It open my eyes in societal and human problems. It puts things in perspective.*

The survey also revealed that the course had gained a reputation among international exchange students. For some, the course was a valid reason for coming to Finland in the first place:

*Interplay of Cultures was one of the main reasons i came to choose the Helsinki University of Technology (as it was called at the time) as a destination to be a guest student from Italy. I lacked such an option in my home university and was always interested in understanding the world and its built environment as the embodiment of trans-cultural relationships.*

Inter-cultural expansion and communication, as well as role of architecture were also referred to in the replies:

*Working with local architecture students and hearing what kinds of issues they face once they graduate made me re-evaluate my position in regards to designing in another cultural context.*

*It made me reflect a lot on how important it is to respect other cultures and understand them, before trying to give advice on how things could or should be done.*

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773 To observe the complete web survey, see Appendix 5.



*The course helped to confirm my interest in the intercultural context and to direct me to my present work.*

*I am skeptical of what large scale impact an architect can achieve in these circumstances. On the other hand, I noticed that it is not worth underestimating the impact of a well adapted project to a local community.*

The question if and how ‘PROFESSIONAL IDENTITY’ was affected evoked replies related to professional practice and awareness, and of transferable skills and dispositions:

*The course and its teachers taught me that architecture can have deeper meaning and impact than I had previously thought. Architecture can be used as a tool for fixing or alleviating wider societal and social problems and it can be a joint effort between the architect-facilitator and people through a participatory design process. I wish to keep these principles as the building blocks of my professional identity.*

*I learned a lot about user-based planning, multidisciplinary urban planning and the courses also strengthened my background values of social justice and common good as a starting point for good urban planning.*

*It helped me to cope with difficult situations (situations were I am far out my comfortzone), developed my problem solving skills and had a huge influence on my career choices.*

*I think this course had paramount importance on offering practical life lessons that cannot be learned in a classroom.*

For some, the effect was neutral, or they had not found suitable career paths to follow, whereas for others it was a profoundly altering experience:

*I would lie if I said yes. The market rules are way too strong, and I am not brave enough to exit my comfort zone.*

*Not really. Maybe I became more aware of the effects of climate in architecture.*

*The course has encouraged me to keep looking for international aspects of being an architect. However, in my professional career, I have not had the chance to work in developing countries since then.*

*After that course I discovered which kind of architect would I like to be.*

When asked about the impact on their ‘professional CAREER’, issues such as geographical expansion, attitudes and professional practices were raised:

*My overall experience at TKK impacted on my career in that it gave me a much more international outlook and I have continued that through my career and now work internationally.*



*The course has been an integral element in my extremely international and global career.*

*The course strengthened my interest in human settlements, which came to be my field of specialisation, since I subsequently followed a postgraduate programme in Human Settlements in Belgium, and then came to teach myself, as Assistant Professor in International Urbanism on Human Settlements in Development.*

*My career has been completely focused in the direction it currently is thanks to the course of Cities in Crisis.*

*Planning and designing toilets with communities from unplanned areas definitely has impacted my career or at least the networks I roam around. I have yet to see the long term consequences.*

Some answers also recounted untapped opportunities, despite the ‘momentum’, or projects that never took off:

*It could've, and the momentum was there, but in the end my personal life took centre stage and I did not have the energy and willpower to go on. Not really. After the course we had a group who tried to start designing a vocational school in Benin. But this project never really kicked off.*

*At some point I had plans to aim for a career in global development, but after I understood how most of the development consultants actually work I figured I wouldn't want be part of that.*

*I don't think it has had any bigger impact on my career, but I got some really nice friends, from the course, that might cross my road in the future.*

The question ‘What was the most important thing you learned during the course?’ evoked a surprising number of responses referring to human aspects and transferable skills, such as teamwork and participation:

*The course opened my eyes and my mind to the realities of the developing world, but also to the fact that the fundamental aspirations and hopes of people are rather universal.*

*Team work, understanding different realities, not to underestimate own abilities, problem solving skills.*

*That everywhere the issues are very specific and that listening to the real needs of the people is the most important thing.*

*The power of participatory project. The importance on getting the user involved or even more at the source of the decision making process.*

*During the course I learned the uttermost importance of working in multidisciplinary groups when trying to tackle complex problems.*

One alumnus reported deep disappointment:

*Human race sucks. I developed a very pessimistic view of the World. I had to read a 1987 book about problems in 3rd world cities (Squatter Citizen), same year I was born, and I could realize that 23 years later (then) and 30 years later now, the problems are the same or worse... I also learned that the little hope we have, is to apply the "think global, act local" slogan.*

Considerations in architectural design were also highlighted as the most important aspects learnt:

*Importance of context, use of appropriate materials and resourcefulness.*

*To be aware of natural environment and events (monsoon, flood, heat, humidity...) in the existing way to deal with, especially the water subject and the ground impermeability.*

*That urban quality and quality architecture are as important in developing countries than in rich Western countries or even more important, giving people dignity and integrating them better to their own environment thus respecting it more.*

*The experience as a whole of the culture, environment and the planning/ design context was the most significant.*

For some, the course was a life-changing experience, dictating the direction of their future career entirely. Some had found it difficult to continue on that path despite their willingness, due to the realities in their own countries and lacking opportunities for development-related work. As discussed earlier<sup>774</sup>, the lack of career paths and work-life opportunities for architects – new graduates especially – is a common challenge in the humanitarian field, which was also reflected in the replies to the survey.

The replies also showed that most of the alumni report they are still 'actively following the issues of global sustainability and humanitarian development'. Out of 39 alumni, 14 were working professionally in projects related to global sustainability and societal development, and 11 were volunteering. For some, at least, the course has provided a basis for their future careers and sustained professional interest in issues of global development.

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<sup>774</sup> See Section 2.3.1.



Milk jug from Rwanda.  
PHOTO ANNE KINNUNEN

### 6.3 STRATEGIES FOR INTERDISCIPLINARY DIMENSIONS IN VARIED CULTURAL ENVIRONMENTS <sup>775</sup>

The rapid change of our societies, as well as the transformation of our technological, societal and environmental living context is forcing universities to respond to issues of globalisation and development. The attention orientates increasingly towards the Global South, in the cities and societies where people live with limited resources and a lack of access to information. The rapid urbanisation and growth of cities all around the world poses simultaneously a risk and a possibility – the direction depends largely on our capacity to adapt and react to the emerging situations.

In western universities, there is a growing tendency to promote multi- and interdisciplinary pedagogical entities that focus on varied cultural environments. However, the existence of siloed structures within universities may pose a threat to the development, and long-term societal impact of these valuable programmes. Historical structure often prevents collaboration between the faculties, and when collaboration does occur it appears to originate in administrative convenience rather than growing pedagogical ambitions. In this scenario, some contemporary interdisciplinary initiatives may be seen as somewhat inward-facing reactions to an existing institutional structural deficit rather than evidencing a pedagogy capable of addressing itself to major humanitarian needs in an effective manner. Lateral thinking, crossing over boundaries and removing artificial dividers between faculties and disciplines are required when addressing the challenges of globalisation.

Aalto University, with its multidisciplinary infrastructure, has the potential to build globally relevant programmes and explore how disciplines can communicate in an effective and fruitful way. It is also timely to ask what kind of pedagogical approaches are needed to enhance learning in cross-disciplinary situations, how university pedagogy can adapt itself to the changing societal situations, and what means and measures should be taken to respond to the contemporary needs in the varied global conditions.

In the following sections, I will describe some of the developments that have already taken place and reflect on the possible future directions for strengthening interdisciplinary academic programmes that focus on global sustainability and societal development. I will demonstrate some of Aalto University's approach to pedagogy in the context of globalisation and development, and address the challenges and downsides of the approach, as well as the benefits to communities in the world majority context and learning processes in multicultural environments.

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<sup>775</sup> Parts of this section are discussed in greater detail in: Hollmén, S., Laurila, T., Muhonen, M. *World in Transition – A Strategy for Multidisciplinary Pedagogy in Different Cultural Environments*. Architecture Otherwise. Congress Proceedings, 1600-1609. UIA Durban 2014. ISBN: 978-0-86970-783-8

### 6.3.1 Strategic Context at Aalto University

In order to create a more systematic and coordinated approach with a broader impact, it is useful to consider the goals and targets which Aalto University as a higher education institute has committed to strive for, such as the UN Sustainable Development Goals,<sup>776</sup> as well as Aalto University's potential in global leadership and its societal responsibility.

The Finnish government has set goals for Finnish universities to endorse life-long learning, meaning that programmes and entities that support post-master's studies and continuous education are expected to be developed. Aalto is also committed to promoting interdisciplinary knowledge building and innovation in the face of contemporary global challenges. Also noteworthy is the students' growing interest in and awareness of global and societal issues and their justified request for meaningful education.

### 6.3.2 WiTLAB – Creating Interdisciplinary Research and Pedagogies

WiTLAB<sup>777</sup> stemmed from the academic developments that emerged after the inauguration of Aalto University in 2010. The merger of three established universities opened up opportunities for multi- and interdisciplinary course combinations, unlike any other previous forum in Finland. WiTLAB was created to facilitate inter- and transdisciplinary research activities on global sustainability and societal development, while maintaining a solid base in education and pedagogy.

The framework of societal development in the humanitarian context requires a strong personal interest and passionate attitude towards tackling societal problems, sensitivity to cultural interaction and commitment to time-consuming field trips – on the part of both students and faculty. Working with underprivileged and fragile low-resource communities is a special area of expertise and it is not realistic to expect deep engagement from a large number of academic personnel. It is likely to remain as a specialised area, but with a wide potential for deep societal impact and international visibility.

The relation between research and education is integral. In the context of projects related to global development at Aalto University, the emergence of research initiatives is noteworthy. Topical issues and contemporary challenges have been identified on site, usually during the *World in Transition*<sup>778</sup> field trips, which are directly linked to education. The students' personal interests direct the course work and allow for relevant research topics to emerge. Usually these are continuations of the course work, with some students choosing to go back and continue working on a topic that raised their interest.<sup>779</sup>

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776 Aalto University was the first Finnish university to sign the United Nations Sustainable Development Goals Accord. This means that Aalto University is highly committed to advancing these goals as part of its core activities.

777 See Section 1.4.3.

778 See Section 6.3.3.

779 Suomela, 2019; Kintsurashvili, 2019. Both writers are recent Aalto University graduates.

### 6.3.2.1 General Objectives

Over the years, WiT LAB has built up a wide network of stakeholders and collaborators through courses and research in the mutual exchange of knowledge, including universities, governments, communities, national and international NGOs and companies. The societal impact of the humanitarian programmes at Aalto WiTLAB unfolds as four-sided:

1. The educational entity: combining design & architecture, engineering, and the network of stakeholders in the field
2. Ongoing research: at the departments of Architecture and Built Environment, collaboration with international universities and The Finnish University Partnership for International Development (UniPID)
3. Grass-roots action: settings in which the learning and research has been made visible, concrete and tangible to communities in low-income countries outside Europe
4. In the public discussion: organising of seminars, open lectures and round-table discussions

WiTLAB has a few committed academic practitioners at Aalto University, whose work has so far contributed to raising awareness and educating a few hundred architects and professionals in sustainable technologies, to understand the importance of interdisciplinary collaboration and cultural awareness when working with underprivileged communities' capacity building in a global context. However, to strengthen our presence in the areas formerly unaffected by architecture, and to promote holistic, design-driven thinking in the strategies for global sustainability and societal development, it would be useful to create new paths for our students to make careers where they can combine their professional expertise with global responsibility and transferable skills. Thus, the target state and aim of WiTLAB is to create opportunities for

1. Structures and models for national and international collaboration
2. Large research and educational networks and funding applications
3. Student employment in the professional development and humanitarian field
4. Fostering transdisciplinary pedagogies for pioneering, cross-university education and research
5. Fulfilling the UN's SDG Goals and Aalto University's Strategy in Sustainable Development
6. Enhancing collaboration and visibility among international organisations

### 6.3.3 World in Transition Courses

*World in Transition* (WiT) is a combination of master's level courses offered by the Aalto Schools of ARTS, BIZ and ENG. The courses deal with development issues and globalisation and WiT brings them together to form a multidisciplinary entity and to collaborate with disadvantaged communities at the grass roots level. WiT courses aim to increase awareness, education and research in



the fields of sustainability, development and technology in multidisciplinary environments, social entrepreneurship and inclusive business.

Great emphasis has been put on teaching methods that enhance communication and interaction between students, lecturers and collaborative project partners. Bringing the courses together under a common umbrella brings synergy, enhances both multi- and interdisciplinarity and is economically feasible. Since 2012 the three course modules have been developed together under the *World in Transition* umbrella.

Ever since it was established, the aspiration to explore and expand understanding of different cultural environments has been the ambition and goal of WiT courses. Over the years, field trips have taken students to Senegal, Benin, Cambodia, Tanzania, South Africa, Kenya, Lebanon, Mozambique and Rwanda. In all of these locations the courses have had a strong collaborative liaison with local NGOs, communities and universities.

With its field trip and practical projects, the WiT combination of advanced master's level courses offers a solid base for developing a genuinely interdisciplinary learning platform. Students with different main subjects share the same context, but approach their projects from their own point of view. The focus of WiT is on community enablement through participation, sustainable design solutions and cultural awareness. WiT aims at providing the students with a wider perspective and understanding of the processes and the practice of their discipline when working in various cultural contexts.

The majority of the problems of urbanisation are concentrated in the cities of the developing countries. Seen as a metaphor of the world, a chaotic city challenges the students to put their ideas and knowledge in practice, to step from vision to implementation. The design studio projects handle different scales for different disciplines, but share a participatory and practical approach to problem solving. The multidisciplinary *World in Transition* course combination underlines a positive prospect and possibilities for change.

The pedagogical approach of the WiT courses is based on transformative learning theory<sup>780</sup> and problem based learning.<sup>781</sup> They also emphasise transferable skills<sup>782</sup> as learning objectives, because the projects require strong teamwork, critical thinking and adaptability.

More information and the practical arrangement of the courses are presented in Appendix 6.

#### **6.3.4 Community Engagement and Participatory Planning**

A group of visitors from a foreign university can easily cause expectations in a poor urban community: why are these people here, what are they doing, and how can we take advantage of them being here? Especially in many African cultures, where reciprocity is tightly embedded in the social coding, time and attendance is also considered a gift. If visitors ask the local people for their

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<sup>780</sup> See Section 4.4.1.

<sup>781</sup> See Section 4.4.2.

<sup>782</sup> See Section 4.5.1.

## World transition

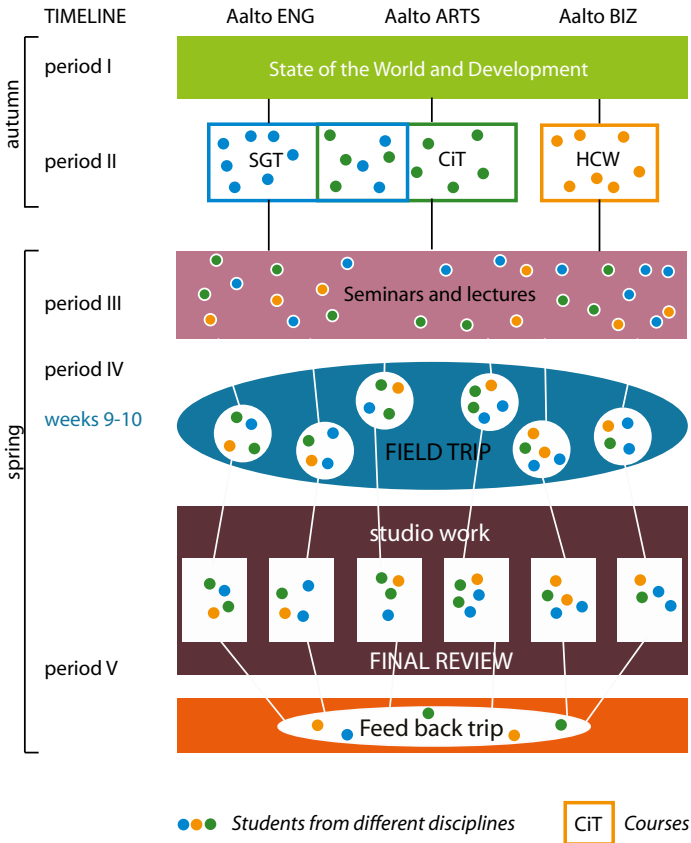


Figure 9: The diagram shows the overlapping of the WiT courses during one academic year (Academic cycle 2012-2014).

attention, it is only natural to request a favour in return.<sup>783</sup> In some circumstances, light skin tones can still be misconnected with wealth – whereas in the case of students, their most valuable possessions are mostly their intellectual potential and their ideas, rather than material belongings or money. Through conversation and discussions with local communities, the interaction can be turned into a reciprocal exchange of information and learning opportunities for all. Expressing an attitude of arrogance and superiority in the face of a low-resource community would be offensive and inappropriate; underestimating people's intelligence in any circumstances can have detrimental consequences. Humans deserve to be encountered with respect and dignity, their integrity appreciated. From these premises only, an equal basis for communication and sharing can be established.

<sup>783</sup> Kapuściński, 2002.

Furthermore, the social coding, habits of communication and showing respect and disrespect vary from one culture to another. Understanding cultural locality is the first and foremost premise when working in various cultural contexts, especially with disadvantaged and low-resource communities. One of our contemporary challenges appears to be the abundance of human beings – yet at the same time it is our greatest resource. Seeing this as an opportunity in urban poor communities may help us to capitalise on this human potential in a positive manner.

For any development project, one indicator of success is the level of engagement of the local community. On all occasions, engagement can be enhanced by interacting with people in such a way that they can feel their human potential is considered valuable and useful. When they are appreciated, people are more likely to participate in and be part of an endeavour that aims at their benefit – on their own terms. A fair and equal opportunity to share ideas and insights draws people's attention and calls for engagement. Taking ownership of a project on a communal and even personal level is made possible if ideas are shared on a grass roots level and if people are given the opportunity to take part in actually doing something, preferably something tangible that has visible consequences.

Aalto University's *World in Transition* courses have the determined goal to respect people regardless of their origin, social status or wealth. In all phases of the course planning, the leading idea is to bear in mind the lessons learnt from the decades of development work, the successes and the downfalls, and the pedagogical principles WiT has committed itself to. The WiT attitude is based on respect for the local culture, community engagement and participatory planning – in all circumstances.

#### **6.3.4.1 Paring with Local University Students**

Collaboration with local universities is one of the key components of the WiT courses. If possible, we seek to pair Aalto students with local university students, for mutual learning and exchange of knowledge, to work with them as equal peers in design, and as translators of local languages in specific situations. Often the input of the local students is essential to the success of the class. They help the Aalto students to communicate with local people and discuss specific questions related to their environment, such as the wishes and hopes for the future of their village, the employment situation and prospects, public services and transportation, that is, what is urgently needed and what is not.<sup>784</sup>

Basic human interaction takes place in informal situations. What helps our students most in overcoming the language barriers and building trust is their engagement in the everyday activities of the people, for example, playing football with the kids of the village, cooking and eating dinner in local houses, hanging about in the village market place to chat with people in between their

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<sup>784</sup> One of the most fruitful examples of local student collaboration was the Kigali Master Class in Rwanda in 2014. For more detailed information, see Appendix 7.



Kigali Master Class 2014, Rwanda.  
PHOTO SAIJA HOLLMÉN



Water quality testing lab, Aalto LAB Mexico.  
PHOTO JAN AHLSTEDT

everyday routines; carrying water, collecting harvest, tending cattle. This kind of involvement would teach our students more than any formal inquiry or interview ever would. Learning from the everyday life of people - what makes their lives difficult, and what makes them happy – is a lesson learnt and needed, in order to create meaningful architecture for these conditions. Participatory planning is about being open and receptive, vulnerable even, towards one another – but it is not an academic exercise.

#### 6.3.4.2 Real Life Challenges

The societal and cultural challenges we are facing tend to have greater complexity than can be addressed by single disciplines. Many universities face the challenge of adapting to their rapidly changing relevance within the societal needs of the future.<sup>785</sup> *World in Transition* offers the students from different faculties a possibility to test their own potential in communication, problem solving, teamwork and participatory planning methods. Many of the students have been inspired enough to take further action to continue the work they had started during the course. Their feedback implies that the possibility to work with real clients and the realism of the projects have been a unique opportunity in their studies.

The strong social and cultural emphases of the *World in Transition* courses require commitment and personal involvement. For all of its participants, it is an unforgettable real-life experiment in teamwork and a lifelong injection against tunnel vision and narrow-minded thinking. The multicultural and interdisciplinary *World in Transition* courses prepare the students to confront real life challenges at both the local as well as the global scale – all at the same time as being connected to the practicalities of human life at the grass roots level.

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<sup>785</sup> Hollmén and Rose, 2013.

## 6.4 BUILDING ACADEMIC PROGRAMMES

In large thematic areas such as societal development in the humanitarian context, there is a clear need to build an academic programme that is capable of creating connections between interdisciplinary pedagogies and knowledge of cultural locality. It is essential to strive for relevant information and knowledge to serve as a basis for justified, appropriate and respectful actions when we communicate and make assumptions concerning the lives of residents in low-resource communities. Based on previous discussions in this thesis on the general objectives of such programmes,<sup>786</sup> some intrinsic factors, principles and requirements for a programme in societal development in the humanitarian context could be articulated as follows:

- Explores pedagogies developed for higher education in art, design and architecture to allow nonlinear and unexpected processes of learning to emerge.
- Combines deep knowledge and professional expertise with the skills to transcend disciplinary boundaries contributing and benefiting interdisciplinary teamwork and processes.
- Combines a theoretical knowledge base with physical, embodied cognition of cultural and climatic realities of places and cultures other than one's own.
- Emphasises transferable skills and a humanistic approach, regardless of our own disciplinary positions or cultural origins.
- Fosters awareness of one's own cultural prejudices and willingness to surpass them, to cultivate sensitivity in cross-cultural encounters and respectful communication.
- Welcomes the undefined conditions of uncertainty and unpredictability, both in research for theoretical knowledge and practical fieldwork.
- Engages in 'learning by doing', on both theoretical and practical levels.
- Extends across academic structures to allow scalability and adaptability, as well as agile and flexible mobility and participation of students of various majors.

### 6.4.1 Practical Curriculum Requirements

Courses dealing with vulnerable communities and collaborative planning share a humanistic approach. The students would gain a basic understanding of how their technical knowledge relate to the challenges the communities face. Careful course planning and integration of relevant methods and strategies are key components of programme development.

#### 6.4.1.1 Generic Skills

Transferable skills, or working life skills, are fundamental assets to any contemporary profession. In the humanitarian field, these skills become essential because the situations encountered require adaptability and flexibility in human interaction. The manifestations of transferable skills are many.

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<sup>786</sup> See Section 6.3.2.1.

In addition to those previously discussed,<sup>787</sup> in cross-cultural contexts, the skills may also include communication, adaptability, and tolerance of insecurity and unpredictability. These skills prepare the students' expertise and knowledge to move from situated (context related) to scalable and applicable in complex professional situations.

Incorporating transferable skills into interdisciplinary curricula requirements is of fundamental importance. Furthermore, the thematic focus on global challenges necessarily puts them in the forefront of learning objectives. Adaptability to unexpected situations requires mastering most of the above-mentioned transferable skills – in addition to one's own disciplinary deep knowledge.

#### **6.4.1.2 Situated learning**

Humanitarian work is always situated, since it deals with people and communities in a specific context. Education in societal development in a humanitarian context equally requires situated field trip experiences because one cannot learn how to deal with low-resource communities without personal engagement. Interdisciplinary higher education that focuses on global sustainability and societal development strives to provide the students with a strong theoretical knowledge base as well as a practical understanding of context and culturally-related challenges. Exploiting pedagogies established in problem-based learning<sup>788</sup> provides a useful framework to access the outlined agendas.

In the context of cross-cultural situations with low-resource communities, it becomes evident that the field trips included in the curricula are essential in achieving an embodied cognition of the conditions of the communities. Engaging with the realities of low-resource communities allows the growth of varied insights, which are rooted in physical experiences. Embodied and situated cognition is a vehicle to transformative or deep knowledge,<sup>789</sup> which profoundly changes the way one sees or thinks of a particular phenomenon. This embodied cognition achieved through physical experience and engagement is a prerequisite for knowledge transformation from situated to adaptable.

#### **6.4.1.3 Thematic Areas**

The most successful contemporary examples of interdisciplinary academic models have been composed by not only combining disciplinary elements, but also by re-evaluating the processes of knowledge creation and adapting to thematic areas.<sup>790</sup> They rely on cultivating an understanding of the roles of particular disciplines in a specific context and of how they contribute to complex systems. Professional expertise in a certain area is valued, since deep knowledge of specific topics will continue to remain essential. The purpose of interdisciplinary curricula is to facilitate discourse and action between the various

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<sup>787</sup> See Section 4.5.

<sup>788</sup> See Section 4.4.2.

<sup>789</sup> Hollmén and Rose, 2013.

<sup>790</sup> Fruchter, 2001.



fields of deep knowledge and allow the disciplinary expertise to communicate and talk to each other in an understandable way. Structural rethinking is required, since schools and departments in universities are inherently built to meet the disciplinary requirements of a certain area of knowledge. Thematic interdisciplinary education acknowledges a variety of disciplinary origins and develops new strategies for merging those in a meaningful way.

#### 6.4.2 World in Transition Minor

On a programme level, it is useful to introduce varied layers of student engagement opportunities. At Aalto University, a new minor programme called *World in Transition Minor* (15-25 ECTS) is being offered to master's level students who are about to complete a degree in their own chosen discipline. The programme has started in the academic year 2020.

Instead of establishing a new master's programme, a minor is more relevant because our societies depend on deep expertise in varied fields. Completing master's programmes in their chosen disciplinary contexts, thus cultivating professional capacities in their own areas of expertise, the students can also bring highly valuable disciplinary knowledge to the humanitarian field. Within a minor programme included in their curriculum, they still have the opportunity to connect with the thematic areas of globalisation and societal development, while maintaining their major subjects as an asset for their future roles in work life.

Global sustainability and societal development are areas that require multi-disciplinary expertise. It is a useful approach to expose a number of master's graduates to the thematic area in a format of a minor because it gives them a general idea and understanding of the relations and requirements of the field, and an understanding of the connections of their own disciplinary knowledge to other relevant entities. The aims of the WiT Minor are explained in this extract from the course description:

The focus of WiT Minor is in long-term sustainable global development issues, such as UN's SDGs, good governance, human rights, social sustainability, climate change and innovations. It explores the dilemma of development from different perspectives. It deals with cross-cultural communication, participatory practices and community engagement in vulnerable settings, and promotes culturally sensitive professional practices in architecture, design, engineering and business.

WiT Minor exploits Problem Based Learning (PBL) and Human-Centered Design (HCD) methodologies with links to industry, civil society and academia. The WiT Minor emphasizes interdisciplinarity and mutual and reciprocal peer learning.<sup>791</sup>

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<sup>791</sup> For full WiT Minor description, see Appendix 8.

# WiT program structure and content

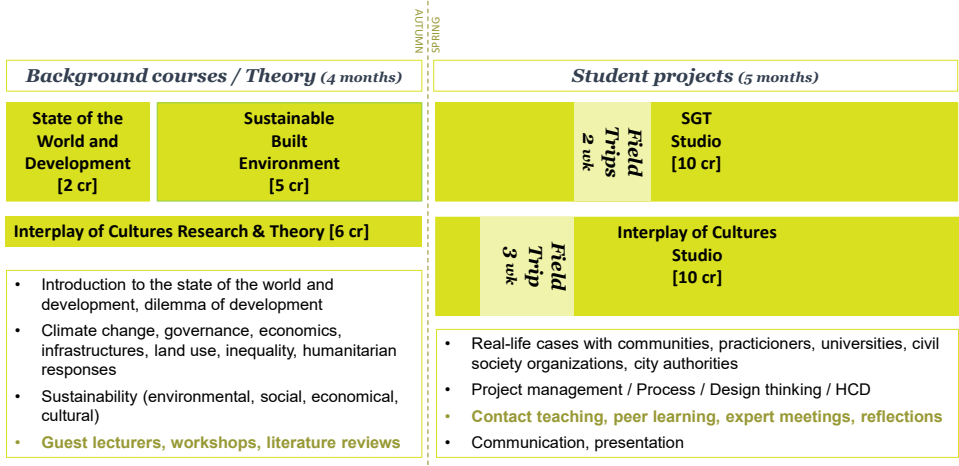


Figure 10: Programme structure of WiT courses.

The core courses of the WiT Minor are the *Interplay of Cultures Studio* and the Sustainable Global Technologies (SGT) Studio,<sup>792</sup> plus a selection of theme-related electives. The basic structuring of the courses during an academic year is shown in Figure 10.

## 6.4.3 Post-Master’s Programme in Sustainable Global Development

For those alumni interested in deepening their knowledge base and expertise in the thematic field of global sustainability and societal development, an interdisciplinary post-master’s programme in sustainable global development would serve as a continuum to the *World in Transition (WiT) Minor*. As a special training programme, it would offer a diploma in the field and create a knowledge base and connections to practical work, while at the same time intellectually paving the way for research and doctoral studies.

The anticipated programme would be open to professionals from all disciplines. It would also contribute to Aalto University’s Life-Long Learning objectives and create work life opportunities for students and researchers in the field of global development through internships with international governmental and non-governmental organisations (INGOs). The programme would be subject to fees, thus being resource efficient in the diminishing budget frame of the university. It would educate interdisciplinary professionals as enablers with transferable skills and abilities for continued self-development and capacity building.

<sup>792</sup> See Section 1.4.4.2.

## 6.5 CONCLUDING REMARKS

In Chapter 6, *Perspectives of Global South in University Education*, I have discussed education in humanitarian architecture at Aalto University and the requirements that the contemporary global challenges are posing to the development of university programmes. I reflected on the disciplinary premises of the *Interplay of Cultures* studio and what kind of pedagogical principles the programme was built on. I presented the outcomes of a web survey that was conducted among approximately 200 alumni of the *Interplay of Cultures* courses, between the years 1993 to 2018. The 40 replies submitted revealed that for some, the course had been a transformative experience, dictating the direction of their future careers. Others were discouraged by the lack of work-life opportunities in the humanitarian field, although still maintained an interest in the issues related to global sustainability and societal development.

I discussed strategies for interdisciplinary education in the field of humanitarian architecture and its practical dimensions: community engagement, collaboration with local students, and the real-life challenges the students are exposed to.

Seeking to answer the question ‘*What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?*’, I presented the WiT Minor, which combines the existing Aalto University courses related to global sustainability under one umbrella, and discussed the general objectives and practical curriculum requirements of an interdisciplinary programme in the humanitarian field, concerning cultural locality.

The ongoing strategic development of Aalto University, as well as the governmental requests for life-long learning opportunities, suggest structuring a post-master’s programme that would provide both work-life opportunities and research initiatives in the humanitarian field.

Chapter 7 will conclude my thesis, and will discuss a final research question, ‘*How are cross-cultural design practices informing the curriculum design of an interdisciplinary architectural programme aimed at addressing global humanitarian challenges?*’ in order ‘*to develop a pedagogical framework for interdisciplinary architectural education, that would respond to global humanitarian challenges in a variety of cultural contexts.*’

Next page: Shepherd’s garment of the Dogon, Mali.  
PHOTO ANNE KINNUNEN





Mask from East Africa.  
PHOTO ANNE KINNUNEN

## CONCLUSION AND REMARKS

### 7.1 INTRODUCTION

In this thesis, I have explored and discussed the complex challenges of architecture, global sustainability and cultural locality in the framework of architectural design practice and interdisciplinary pedagogies. The discussion has been framed by the overarching research question '*What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?*' The aim of the thesis is to provide insights and directions for developing a pedagogical framework for interdisciplinary architectural education that would respond to global humanitarian challenges in a variety of cultural contexts.

My thesis is informed by three main background entities: 1) the architectural projects of Hollmén Reuter Sandman Architects and Ukumbi NGO, 2) study of collaborations between architecture and engineering and their possible future connections at Aalto University (ARTS+ENG), and 3) the Aalto *World in Transition Research Lab* (WiTLAB), which is an academic entity concentrating on global humanitarian challenges through interdisciplinary university pedagogies. This ensemble of directions forms the epistemological scaffolding for my thesis.

The thesis has two main sections. In PART I, I presented the overall theoretical and practical framework of my research concerning the issues of cultural locality in low-resource communities, and discussed '*what is the role of architecture and architects in the context of global humanitarian challenges?*'. First, I debated the modern movement, the *International Style* and critical regionalism, and how the role of architect was perceived before the era of globalisation. I then discussed the contested phenomena of 'humanitarian architecture' and presented examples of situations and conditions that stem from situated practices in the context of humanitarian challenges.

In PART I, I also presented my main *research corpus*: an (auto)ethnographic collection of travel logbooks of five architectural projects with low-resource communities in Africa, produced by Hollmén Reuter Sandman Architects. Using hermeneutic methods of interpretation, I analysed the written data through thematic coding and narrative reflections, aiming at answering the question, '*What are the cultural features one needs to acknowledge when working in a cultural context other than one's own?*'.

PART II of my thesis discussed pedagogies in architecture and interdisciplinary higher education, and their connections to cultural locality and humanitarian challenges. I presented basic concepts and theories of learning that are nowadays considered most relevant in the context of adult education, concentrating on educating self-directed, autonomous thinkers – most importantly transformative learning theory and Problem Based Learning (PBL).



Seeking to answer the question, *‘What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?’*, I debated the various definitions of multi-, inter-, and transdisciplinarity, and how interdisciplinarity would be facilitated in university education. I discussed creativity, a quality possessed by all humans, as a vehicle to access the *in-between* areas of disciplines and to facilitate innovative, flexible and adaptive systems and communities.

In PART II, I also debated the education in humanitarian architecture at Aalto University, and the requirements that the contemporary global challenges are posing to the development of university programmes. I discussed strategies for interdisciplinary education in the field of humanitarian architecture and its practical dimensions, seeking to answer the question, *‘What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?’*.

In this final chapter, Chapter 7, *Conclusion and Remarks*, I will present a summary of my research findings and reflect on the concluding research question, *‘How are cross-cultural design practices informing the curriculum design of an interdisciplinary architectural programme aimed at addressing global humanitarian challenges?’* In the final sections of the chapter I discuss the possible future directions for academic models on global challenges, re-imagining architectural education – and the complex interdependencies of cultures on our shared planet.

## 7.2 SUMMARY OF FINDINGS

In this chapter, I seek to answer my overarching research question *‘What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?’* through the subsequent research questions, which frame the two parts of my thesis. Due to the multiplicity of dimensions and the complexity of the phenomena, it is impossible to reach an unequivocal conclusion. The dimensions are as many as are the observers, and the perception of the reader is as valid an interpretation as mine. Nevertheless, in the following, I present a summary of the discussions that I find to be the most relevant ‘research findings’ in how the dimensions relate to and influence each other.

***What is the role of architecture and architects in the context of global humanitarian challenges?***

It has become evident that the architectural profession has to embrace new dimensions and expand the scope of both its education and professional identity. The idea of the architect as a solo-creator and an authority is utterly outdated and in the context of humanitarian challenges it is even an injurious attitude. In order to become useful practitioners and facilitators in a humanitarian con-

text, architects need to develop and cultivate teamwork and communication skills and an understanding of the cultural features of the peoples and communities affected.

The idea of a 'universal architecture' of western modernism has equally become irrelevant. Considering the range of climatic conditions, of cultural variations and the vast variety of regional interpretations of human habitat, it is of paramount importance that architects develop a deeper understanding of local conditions and cultural characteristics. Especially those working with vulnerable communities must adopt sensitive and participatory methods for creating relevant and dignified interpretations of their built environment.

We should acknowledge that the interpretation of architecture as something that merely gives form to the built environment following a commission from a client is not valid in the context of humanitarian architecture. The design choices need to be grounded in studies of the needs of the community, of local conditions, as well as in research on related socio-political issues, and in solid and well justified arguments on sustainability and cultural relevance. This is crucial, if architects are to become useful actors in varied cultural environments and to make informed decisions and enable local capacities to develop.

In a humanitarian context, where the resources are scarce, quality becomes underlined. Understanding local conditions becomes of utmost importance, as the scarcity of means and materials challenges the professionals to achieve the best possible quality with the least available resources. Humanitarian projects need to prove such architectural quality that they serve to restore the self-esteem of the vulnerable and fragile and re-evoke pride in their own culture. At its best, architecture speaks about something other than building alone: it can become a powerful vehicle towards inclusion, social cohesion and engagement when rooted in the intrinsic values of local culture.

The contemporary humanitarian crisis and needs in our societies are posing a challenge to our professions. Humanitarian architecture only becomes a relevant field of knowledge if we as architects choose to make it relevant, take action and start building the knowledge and understanding required in the field. In order to make informed decisions in emergencies and long-term societal development alike, we need solid research on varied cultural and societal contexts, technologies and systems. Architecture is one factor in the process towards sustainable societal development.

***What are the cultural features one needs to acknowledge when working in a cultural context other than one's own?***

The *research corpus* of my thesis – the ethnographic data from the field trip logbooks – can certainly be interpreted in multiple ways. My reading of the data reveals relevant issues to be those related to *context* (climate and local conditions, concept of public space, spatial hierarchies), *culture* (habits, gender relations, religion, language, cross-cultural communication, ethical behaviour,

community engagement), *knowledge and technology* (sanitation, local materials, environmental awareness, local knowhow), and *society* (regulations, governmental collaborations, transparency in politics). Each of these categories contain a multiplicity of issues that vary from one context to another. Some of the findings seem mundane and neither exciting nor dramatic, but then again, they tell about similarities as much as about differences. It is a finding in itself to realise that the similarities we share are so many and the differences between us are usually a matter of communication.

Another way of framing the same data would centre the ‘*project space*’ (local partner autonomy, engagement and empowerment, ownership, respect, dignity, capacity building) with issues related to *social context, technical framework, human attitudes, language, pitfalls* (such as corruption and ethnocentrism), *hermeneutic circle of learning* and *situated knowledge*.

The alternative dimensions for interpretations of the data is unlimited. The purpose of the varied interpretations is to highlight the possibility of the hermeneutic circle that allows for deepening understanding from various perspectives. This suggests moving from *situated* to *applicable* knowledge in multiple contexts.

***What kind of pedagogical frameworks are applicable for interdisciplinary architectural education?***

Architectural education, as we know it in the age of modernism, has largely centred around western ideals of ‘universal’ architectural interpretations, and has applied master-apprentice studio teaching, which concentrates on adaptive enculturation, rather than posing questions of a philosophical, ontological or epistemological nature.<sup>793</sup> However, in our contemporary world of interdependencies and complexities, where multiple cultural influences overlap and interact, it is no longer relevant to rely on the educational traditions of an era that highlighted ‘artistic authority’. Theories of learning applicable to adult education are those aiming at cultivating *autonomous thinkers*, such as transformative learning, in which the students are able to identify and critically reflect on their tacit habits of mind and frames of reference.<sup>794</sup> The teacher becomes a co-learner, voluntarily giving up authority and allowing the students to question and find answers for themselves. The teacher supports and facilitates learning processes through discourse. Genuine learning opportunities especially occur when students confront a *disorienting dilemma* and their tacit habits of mind are contradicted.

Transferable skills, that is to say, according to Barnett, “those that surely hold across manifold situations, even unknown ones,”<sup>795</sup> and dispositions such as “carefulness, thoughtfulness, humility, criticality, receptiveness, resilience,

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793 See Section 4.2.1.

794 See Section 4.4.1.

795 Barnett: 2012:65.

courage and stillness”,<sup>796</sup> form a relevant basis for interdisciplinary studies. Interdisciplinarity is largely about learning to communicate one’s expertise in a context of complexity, multiple dimensions and different stakeholders. A professional must find ways to connect across disciplinary boundaries, to interact and communicate the relevance of his/her perspective and expertise to the task at hand.

A learning environment for interdisciplinary studies is based on reciprocal, equal and interdependent teamwork, in which each member of the team is positively dependent on the participation of others. Interdisciplinary learning is an integrative and iterative process, rather than a product.<sup>797</sup> This also includes non-disciplinary knowledge creation as a component of complex systems of interrelations and human interaction. Gaining holistic understanding of a phenomenon requires non-disciplinary knowledge creation as much as scientific rationale.

***What kind of pedagogical developments encourage the accumulation of knowledge of cultural locality in a university context?***

As was discussed in the section on critical regionalism,<sup>798</sup> a skilful architectural design can distil international influences into local interpretations by adapting to local climatic, cultural, socio-political and economic realities and material availability. The cultural dimensions revealed and discussed in Chapter 3 offer a useful framework for developing insights and dimensions applicable to the accumulation of knowledge of cultural locality. In evolving architectural education, all these varied conditions should become components of a curriculum that encourages mutual and reciprocal learning across cultures and academic institutions.

The existing academic courses, programmes and entities at Aalto University, described in Chapter 6, represent possible ways of enhancing knowledge creation of cultural locality. Their varied perspectives can serve multiple disciplinary origins, and they possess the capacity of becoming relevant interdisciplinary and cross-cultural educational entities.

In the following sections, I will seek to answer my concluding research question, *‘How are cross-cultural design practices informing the curriculum design of an interdisciplinary architectural programme aimed at addressing global humanitarian challenges?’*, by outlining some future directions and aspects to consider when addressing complex educational challenges.

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796 Ibid:75.

797 See Section 5.3.2.

798 See Section 2.2.3.

### 7.3 FUTURE DIRECTIONS FOR ACADEMIC MODELS ON GLOBAL CHALLENGES

The previously described existing structures and courses at Aalto University have been well received and appreciated, when measured by student and community feedback.<sup>799</sup> Yet, they remain small and scattered within the university, because they, until now, have lacked the means of scalability. However, with the existing components as a starting point, they hold the potential to increase and broaden interdisciplinary participation, to host a considerably wider scope of disciplines and a greater number of students. Such a development would require the introduction of a comprehensive structural model with academic leadership, and availability to students from all disciplines of Aalto University. Such a structure would also allow for the cohesion and applicability of systematic interdisciplinary pedagogies and methodologies.

In this chapter, I will conclude with some possible future directions and requirements for architectural and interdisciplinary academic models that would focus on contemporary global challenges in the framework of societal development in the humanitarian context.

#### 7.3.1 University in Transition

The university as an institute was established on the idea that civilisation reflects the highest human capacities and celebrates education, creativity and intelligence. As concentrations of humanity, exploration, courage and wit, they were to cultivate an ability to understand and analyse the world widely, and to come up with new, unbounded and unsuppressed thinking. Over time, the idea of the ‘cultivated and free mind’ tended to become trapped within the disciplinary boundaries and hindrances of siloed and bureaucratic structures. As was discussed in Section 5.1, while the institute of university grew and developed, it established disciplines, which slowly alienated and finally stopped talking to each other.

Today, the idea of *university* suggests not one, but many ‘universities’ which are not necessarily equal to ‘higher education’. The roles of the universities of our time are manifold: they are social constructions, as well as metaphysical, scientific, entrepreneurial and bureaucratic institutions.<sup>800</sup> It is time to look beyond the siloed structures and cultivate alternative ways of thinking when imagining a future university. Now more than ever, universities have the moral and professional obligation to be the forerunners, the *avant-garde*, in developing the means for a sustainable future.

It is in the public domain that the current educational models tend to diminish, rather than support our creativity and ability for divergent thinking, which we all possess as children.<sup>801</sup> As valuable as education is, it is still largely based on canonised knowledge transfer, rather than the individual

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<sup>799</sup> See section 6.1.4.

<sup>800</sup> Barnett, 2011.

<sup>801</sup> See Section 5.3.1.

search for novel connections and deep understanding. As conversed in Section 5.3, a striking contradiction in aspirations appears, as the society around us loudly demands new innovations, while at the same time we neglect to support the fundamental mechanisms of human mind to come up with creative innovations. Innovation and creativity require freedom of mind and space for divergent thinking, unrestricted timeframes, stress free environment, equality, and a supportive atmosphere – all of which are not entirely supported by our current educational models, nor by contemporary societies. On the contrary, innovations are often requested amidst tight schedules, hierarchical structures and strict budgetary limitations.

Great initiatives often emerge at the grass roots level, by enthusiastic and committed individual academic practitioners. Such initiatives can provide valuable and inspiring examples of new connections and novel ways of working, which might be highly useful on a larger scale. These individuals have worked their way through bureaucratic boundaries on practical levels, possibly with the help of some visionary leadership. However, these initiatives live on through the persistence of these dedicated individuals, but if they leave the institution, the initiative is likely to shrivel.

Genuine systemic change requires both bottom-up initiative and leadership support. A university is a community of individuals that functions best if joint effort is supported, collaboration is promoted and co-creation rewarded. Structural support is required to facilitate crossing of bureaucratic boundaries. Universities as institutions have to acknowledge that a leadership model where transdisciplinary innovation is expected but not fully supported will be neither sustainable nor successful in the domain. Amidst our current challenges, universities can no longer ignore the need for interdisciplinary education and the transformation of higher education that its implementation requires.

In the previous chapters of this thesis I have discussed how the instrumentalities of the past need to be re-evaluated if the needs of new situations are to be addressed.<sup>802</sup> If innovation and genuinely interdisciplinary approaches for education and learning are desired, we need a change of paradigm in higher education. This requires structures and educational models that support dwelling in the undefined areas of *in-between* disciplines.<sup>803</sup> Such a change of paradigm is also supportive of connections in thematic areas, such as global sustainability and societal development, that are not bound to one discipline only, but rather to many.

### 7.3.2 Entry Points to Spaces In-Between Disciplines

The human consciousness exploits a non-linear neurological network of connections and mechanisms of knowledge building, where the body and mind intertwine.<sup>804</sup> The non-linear and intuitive capacity of the mind to make unprecedented syntheses is what makes us the species we are. Modern neuroscience

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802 See Section 5.1.

803 See Sections 4.3.1, 5.2.6 and 5.3.

804 See Section 5.3.



has made it possible to measure and prove the interdependencies in how our mind works. The arts – visual, audial and performing – play an integral part in forming an understanding of this knowledge creation, and of the interdependencies of the mind. Scientific research can benefit from artistic processes that exploit these intuitive and non-linear processes. Allowing these realms to collide and create novel approaches is a potential way to increase our capacity to understand the world.

Methodologies used in artistic education can facilitate and help to create entry points to spaces in-between disciplines. As discussed earlier in Section 5.3, the creative processes of non-linear knowledge creation can serve as a vehicle for sharing and opening up opportunities for discourse, which can lead to novel and deepened understanding of complex situations. The human mind flexibly exploits analytical and intuitive, non-linear and linear ways of working, which can function simultaneously without contradiction. A common language base between disciplines can be found by exploring these alternative ways of working to create connections and spaces for discussion.

In the framework of humanitarian projects with low-resource communities, where interdisciplinary approaches are essential, it is equally useful to exploit the methodologies of artistic education and creative thinking. In the case of absence of a common language, the arts can take the role of intermediary and connector between individuals, their aspirations and shared emotions.

### 7.3.3 From Projects to Processes

Interdisciplinary education is more about the processes of learning and understanding interdependencies, rather than achieving a product.<sup>805</sup> In an interdisciplinary context especially, knowledge is socially constructed. Learning happens in groups; the interdependencies of teamwork serve as a vehicle to meaningful solutions in the face of the outlined agenda.<sup>806</sup> The big picture is conceived through sharing insights and understanding how the various disciplinary elements and backgrounds intertwine and how each of them contribute to the common process of knowledge creation. A common base can best be found by creating positive interdependencies between participants and team members.

Intuition is a vehicle to access insights from other domains through experience. As noted in Section 6.1.3, when working with low-resource or indigenous communities with limited access to a common spoken language, participation in the mundane and everyday actions of the community members is a useful way of opening intuitive and embodied ways of understanding the community's realities. It also helps in diving into the iterative and non-linear processes of outlining possible directions and solutions for improvements and community development.

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805 Newell, 2001.

806 See Sections 5.2.5 and 5.3.2.

The interdisciplinary group of students has the opportunity to become a new ‘community of practice’ through their collaborative and non-linear learning process, in which their individual discipline-related communities of practice embrace a broader perspective, and allow them to connect their expertise to the ‘big picture’.

#### 7.3.4 A Collaborative Perspective

International development aid, which was originally established to rebuild the European infrastructure destroyed in the WW2, has not proven to be as fruitful for Africa as it was in the European context with its readily existing social structures. Development aid, as we have seen it take form in large grants and loans to governments of the countries in the Global South, has mainly resulted in deepening societal crises, conflicts and intensified power struggles, too often assisted by Kalashnikovs.<sup>807</sup> Positive results have emerged from those programmes that have invested in human potential and education, with local capacity building as their primary objective.

Today, with climate change leaving the African people with no other options than escaping the harsh conditions of their own regions, Europe is facing the consequences of decades of misdirected development aid. Too much of the financial support has ended up in corruption and warfare, because the measures of assessment and local capacity have been inadequate.

The emerging EU strategy for a healthy and mutually beneficial relation between the EU and the African countries should aim at capacity building, mutual learning and sharing of knowledge. The capacity building would need to extend to all levels of education and governance: primary and secondary education, university education and research, local municipalities, locally active NGOs and INGOs, national governments and institutes.

Western universities, such as Aalto, should consider long term exchange programmes with the Global South universities, although these may not be ranked among the highest top quality institutions when measured with western key performance indicators (KPI's).<sup>808</sup> This kind of exchange programme would not primarily serve to polish the brand of a top western research university, but would invest in the human potential and capacity building of those societies that need support in developing their educational and research infrastructure from within. This collaboration would serve to facilitate true and long-lasting societal impact, which could profoundly change the future of these societies for the better.

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<sup>807</sup> Moyo, 2009.

<sup>808</sup> As discussed in Section 1.4.4.1, as early as in the 1970s, the Finnish government established educational programmes in African universities as part of the Finnish development cooperation, to support local capacity building.

## 7.4 ARCHITECTURAL EDUCATION RE-IMAGINED

Architectural education has the inherent, inbuilt quality of connecting multiple levels of knowledge. It deals with gravity and technology, as well as art, human behaviour and cultural understanding. I am convinced that architects would have a lot to contribute if they participated more in the societal discourse and took a stance on issues that they, by education, are able to influence.

In order to justify our interventions, we need to include critical thinking and ‘questioning the essentials’ at the core of architectural education. My very own professional path has revealed to me that the discipline of architecture has the potential to invite and connect with others, and come up with urgently needed solutions to the wicked problems of our time.

Today, many experts are of the opinion that education – along with the improvement of the lives of the vulnerable – is the most cost-efficient long-term strategy to limit the risk of natural cataclysms, to foster resilience and to build capacities for faster recovery.<sup>809</sup> As Boyer and Mitgang put it: “Architects... need to be more connected to real life issues and better collaborators and communicators; in school they must develop a philosophy of caring for and service to the community.”<sup>810</sup>

Eric Cesal has pointed out that instead of *responding* to dire conditions, we should aim at *preventing* them.<sup>811</sup> The problem lies in the fact that architects are educated to *create* and are expecting to become *known*. Ironically, “nobody ever became famous responding to a theoretical disaster in a place no one had ever heard of.”<sup>812</sup>

Samuel Mockbee, who established the Rural Studio with C.K. Ruth in Alabama in 1993, was convinced that “architecture has moral responsibilities and must have a strong ethical imperative in order to be meaningful”.<sup>813</sup> He believed that “architects should be leaders in bringing about environmental and social change and he called on them to place less emphasis on pleasing the rich and more on helping those who don’t have access to design services but need them”.<sup>814</sup> Indeed, according to Bryan Bell, we should aim at expanding our current conception of architecture, which suggests that it is a privilege reserved for the wealthiest few, both in our education and our practices.<sup>815</sup> “This expanded notion of our profession directly addresses the question of our relevance to society: are we to remain, as we are now, an elitist profession, or can we play a consequential role in improving the human condition for many?”<sup>816</sup>

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809 Palleroni, 2011:224.

810 Boyer and Mitgang, 1996. In Palleroni, 2011:225.

811 Cesal, 2015:213.

812 Ibid..

813 Freear, 2014:23.

814 Ibid..

815 Bell, 2004.

816 Ibid..



Primary school children in Iringa, Tanzania.  
PHOTO SAIJA HOLLMÉN

In the traditional studio environment – the contemporary paradigm of architectural education discussed in Section 4.1.1 – students would not normally encounter the *bricolage* of cultural realities that constitute the common memory of humankind. Exposure to such realities, which differ from their own indigenous and customary cultural contexts, is a healthy reminder of the variety or origins and richness of our cultural heritage. Education that considers cultural variation allows for interpretations beyond physical expressions of architecture only. Sergio Palleroni reminds us that: “Traditionally, architecture education in our culture is limited to the physical parameters of the building and its immediate surroundings. Building themselves, however, are never constructed in spectacular isolation.”<sup>817</sup>

One of the simplest and most personal, yet key findings of the educational entities described in this book has been that the most challenging design tasks are the ones targeted at those who have nothing – whilst they are the ones needing them the most. On many occasions, the encounters with low-resource communities have brought the participating students and teachers back to the basics of architectural alphabets. Working with underprivileged and low-resource communities is a constant reminder of the essentials of our profession. Pallasmaa puts it strongly: “The purpose of architecture is not only to satisfy the practical needs of construction, as it must also add to the meaningfulness and dignity in our lives.”<sup>818</sup>

817 Palleroni, 2004:6.

818 Pallasmaa, 2017:47.

## 7.5 CULTURES AND COMPLEXITIES

### 7.5.1 “Why a Western Architect in Africa?”

In this book, I have discussed the various aspects of collaborative projects with low-resource communities, and the differences and similarities in cultures and human behaviours, within the framework of architectural design. However, the question that I often hear from both friends and colleagues outside the African continent remains: “Why a western architect in Africa?”

The easy answer is that there are still relatively few architects and architecture schools on the African continent, especially when compared to the population and growing need.<sup>819</sup> It is not helpful, either, that local architects are often educated in western universities, where the education strictly concentrates on western ideals, either ignoring or regarding African traditions as something peripheral, categorising them as indigenous in the exotic meaning of the word. Western architectural education tends not to recognise the depth of knowledge and wisdom that dwells in the local and the ‘peripheral’, and only few individual architects have been able to rise above the western education and ideals and look at the African traditions as informative and empowering, as well as applicable and scalable in contemporary architectural design.

Furthermore, too often we see architectural schools in the developing world validating the premises of their educational models based on the western or developed world’s institutions: models that focus on styles, using techniques and materials that are based on universality rather than locality, and having little or no relevance to the local audience or conditions.<sup>820</sup>

Ironically, when a western architect shows admiration of the local by including indigenous elements in the design, it is more likely to become appreciated by the community than if the same had been done by a local architect.<sup>821</sup>

I have also come across the argument that the contemporary western generation seeks to expiate the exploitation of the colonial era. This viewpoint continues to position the African nations as subordinates and underlines the past superiority from a reversed angle. It leaves no room for equal encounters and genuine appreciation and collaboration. The ‘ethos of good-doing’ that grows from a feeling of guilt or remorse is a form of disguised self-assertion. It lacks the objective perspective of analysis, evaluation of actual needs and measures of improvement. If the work stems from a need to purify a conscience, it is distorting the big picture of large-scale community enablement as a tool for societal development. Our globe is a closed system, and in the end, we all share the same resources. The fact that these are now unequally distributed should be the concern of us all.

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819 Lepik, 2013:15; Ozolin, 2015:xxiii.

820 Palleroni, 2004:4.

821 See Section 1.4.1.2.



### 7.5.2 COMPLEX INTERDEPENDENCIES

The tensions and frictions between various viewpoints and cultural differences marks our time. Complexities – even supercomplexities – of the unresolvable discrepancies between them may seem discouraging. Through my own experience I have come to realise that by becoming exposed to other cultures, one becomes aware of one's own, and thus emerges an opportunity to develop an understanding of the interdependencies that connect us all.

Understanding cultural differences is a necessity, since our indigenous culture largely determines the way we see the world. It is only through a conscious decision and determination that we are able to find mutual understanding, a common ground and start to understand the 'other'. The greatest obstacle to finding functional solutions for contemporary crises and building a way forward is our own reluctance to work together and appreciate divergent viewpoints.

The state of the planet leaves no alternatives. Humans no longer have the choice of ignoring people and events that take place 'far away'. The 'world' is here and now, it is everywhere. What happens in the Sahel, Moshi, Lesbos or Kathmandu affects us all. We share a planet and an atmosphere and both of these will become more and more fragile if we continue to ignore the responsibility for our actions. For the human race indeed, this is increasingly becoming a question of survival.

I believe that the only way to eradicate poverty, to build equality and justice, to secure life itself on this planet, is to think and work together, regardless of our cultural backgrounds. As the old African proverb has it: "If you want to go far, go together." It takes a firm decision to listen to alternatives, to be willing to learn about the 'otherness', and the courage to question our own ways of thinking.



Nyang'oro hostel opening, Iringa, Tanzania.  
PHOTO ONASTORIES







## APPENDIX 1

### ABBREVIATIONS AND ACRONYMS

A.P.E.	The Association for the Protection of the Environment (Cairo, Egypt)
CAMARTEC	Centre for Agricultural Mechanisation and Rural Technology (Arusha, Tanzania)
CCI	Tanzanian Centre for Community Initiatives (Dar es Salaam, Tanzania)
CS	Creative Sustainability Master's Programme (Aalto University, Finland)
EU	European Union
FGM	Female Genital Mutilation
FINNIDA	(formerly) the Finnish International Development Agency
HRS	Hollmén Reuter Sandman Architects
HUT	Helsinki University of Technology
INGO	International non-governmental organisation
IoC	Interplay of Cultures (Aalto University, Finland)
ISSB	Interlocking Stabilised Soil Brick
KWIECO	Kilimanjaro Women Information Exchange and Community Organisation (Moshi, Tanzania)
LRDs	Least Developed Regions
NHBRA	The National Housing and Building Research Agency (Dar es Salaam, Tanzania)
NGO	Non-governmental organisation
NORAD	The Norwegian Agency for Development Cooperation
OCHA	The United Nations Office for the Coordination of Humanitarian Affairs
SGT	Sustainable Global Technologies Programme (Aalto University, Finland)
SPARC	The Society for the Promotion of Area Resource Centres (Mumbai, India)
TAGRODE	Tanzania Grass Roots Oriented Development (Iringa, Tanzania)
UN	The United Nations
UNDRO	The United Nations Disaster Relief Office
UN Habitat	The United Nations Human Settlements Programme
UNHCR	The United Nations High Commissioner for Refugees (UN Refugee Agency)
WiT	<i>World in Transition</i> . A combination of master's level courses offered by the Aalto Schools of Arts, Design and Architecture, School of Business and School of Engineering.
WiTLAB	World in Transition Research Laboratory (Aalto University, Finland)

## APPENDIX 2

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## APPENDIX 3

### ARCHITECTURE AND DEVELOPMENT COOPERATION<sup>822</sup>

#### ***Construction as an instrument of development cooperation***

Construction in development cooperation cannot have a real impact unless it is accompanied by a robust network that provides functional content for the project and ensures its continuity. Construction projects must always be based on clearly identified needs and goals. For a project to be successful, it must be able to network with NGOs and secure commitment from local actors. A properly planned, designed and implemented project is a progressive force that benefits the entire community.

#### ***Participatory planning process***

Successful development projects have generally been able to secure the commitment of the target group at an early stage. Without an atmosphere of proprietorship and opportunities for participation, the members of the community feel excluded and do not feel they can have a say in the matter. Participatory planning considerably improves the chances of success of a project when the community feels it is involved in the project. People's self-esteem grows when they see that they too can be proactive participants and influence the development of their own environment.

The planning process is an interactive event where all participants learn from one another. The work demands personal commitment on the part of the planners; the degree of commitment among the target group members is usually directly proportional. For interaction to be real, planners must be able to be present much of the time; this calls for sufficient resources for planning.

#### ***Culturally specific planning***

The language of architecture is not the same everywhere; it stems from and is bound to local conditions. Factors underlying architectural planning include the distinctive features of the culture and the built heritage, climate, era, local resources, community structure, degree of urbanisation, economic structure, art and gender equality. These things all affect the ways in which people use space and how spatial hierarchies are formed. When the hierarchy of architecture adapts itself to the local tradition, the constructed environment becomes familiar, regardless of the materials or architectural vocabulary. Architecture grows most naturally from familiarity with local culture and an understanding of local spatial thinking.

Contact with the built heritage is often severed in contemporary societies, and construction is a skill mastered only rarely by non-professionals. Our society is divided into specialists, and this also applies to the field of construction and planning, and architecture is no longer created without specialised knowledge and skill. Specialisation and higher education can sometimes have absurd consequences: it is frequently observed in development cooperation that educated locals are usually alienated from the circumstances of the poorest section of the population. This is reflected in a tendency to design symbols of wealth, shopping malls and luxury villas, while the impoverished majority live in deteriorating conditions. There are of course exceptions to this.

The structure of society in the Nordic countries is relatively egalitarian. The equal opportunity provided creates an atmosphere and a sense of shared responsibility. Being educated in this environment makes it easier for a planner to approach and work with low-resource communities, to perceive the distinctive characteristics of

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822 This document relates to Section 1.4.2 – Ukumbi NGO. The statement was written by me, Jenni Reuter and Helena Sandman in 2007, when Ukumbi was registered as a formal association. The text has been slightly revised on the occasion of this dissertation. It is available at the website [www.ukumbi.org](http://www.ukumbi.org)

the local built heritage and then re-present them to the community as a creative negotiation strategy. Furthermore, an external observer is free from the local social ties and is therefore sometimes able to see more acutely the intrinsic local factors that must be considered in planning. An outsider can sometimes find it easier also to renew or avoid practices that do not contribute to favourable social development, and to promote good and healthy modes of construction.

From the viewpoint of development co-operation, it is also necessary to know about any other ongoing projects to avoid overlap or conflicts.

### ***Ecology and the environment***

Ecology is a vital aspect of construction; a responsible planner must take environmental aspects into consideration throughout the life cycle of the building project. Projects that are based from the outset on the principles of sustainable development are particularly important in the developing countries. Local building materials, use of low-tech solutions and renewable energy in maintenance, recycling, waste management and ecological sanitation must be integrated into the project in a way that is culturally acceptable and locally implementable. The planner must be able to present simple solutions as a positive value that brings clarity to the project, not as an indication of a lack of resources.

Recycling construction materials is a challenging task since there is not necessarily very much material that can be recycled. However, new, architecturally innovative solutions can bring significant savings in resources locally or alternatively introduce new ways of using existing materials.

Sanitation is an area where cultural factors must be taken into account in technical solutions. A toilet is never merely a technical problem; it invariably carries powerful cultural meanings that must be considered in planning. If the solution adopted in the project is new for the local community, sufficient resources must be reserved for familiarising the end-users with it.

### ***Management of the construction process and local skills***

Development projects sometimes arrive at a situation where the actions of the local authorities are not in line with the interests of the community. Planners must be able to identify and prevent any situations of bribery that may arise during the planning and implementation of the project. Communication with the authorities as well as with all other actors in the project must be open, efficient and avoid all political engagement. It is possible in development projects to adhere to the Finnish custom of direct and open communication and interaction, but it requires persistence and vigilance, directness and integrity. The selection of partners, such as engineers and contractors, should be done very carefully; finding reliable partners is a major factor in securing the success of a project.

Effective and continuing management of the construction process sets an example also for local actors. A responsible building project can therefore contribute to the attainment of the fundamental goal of development cooperation: disseminating knowledge and expertise. Transfer of knowledge is always reciprocal: the local planner is usually the best expert on important issues, as long as they are formulated properly. The utilisation of local special expertise needed in construction is vital, as the use of a local workforce further strengthens the commitment of the community to the project.

**Women's position and equality**

Improving the status of women has proved to be one of the most efficient ways of mitigating poverty in development cooperation. Support for women and girls is an investment in the future, one that in the long term will benefit the entire community. Providing more and better education and strengthening the reference group can give young women the tools they need to survive, and which they will pass on to their own children.

Ukumbi NGO is dedicated to strengthening the status of women. In our work we have observed the great potential impact that a well-planned and well-implemented construction project can have on the self-esteem of women and the welfare of the entire community. Adequate facilities can secure the continuity of well-organised activities and thereby create the necessary conditions for mitigating poverty. Women are powerful actors in society, even when their culture does not allow them to openly assume the position of social activism. Ukumbi NGO is dedicated to raising the visibility of women's actions.

**Architecture – a basic human necessity**

A good built environment is a basic human necessity, one to which all people should have the right, regardless of their economic, social or political position. High-quality planning and design can be used to create ecological, environmentally conscious architecture that adapts to the local culture. Architecture can be used to improve the quality of life, the conviviality of society and communities, and contribute to the formation of self-esteem and identity. At best, architecture can foster the hope that is needed for a better life.





## APPENDIX 4

### Examples of Complex Interdisciplinary Pedagogies

*While working on the collaboration project between the Aalto School of Engineering and School of Arts, Design and Architecture, a number of international schools and programmes were visited. Among those were the following, which represented interesting approaches to interdisciplinary pedagogy and a holistic view on higher education.*

An example of complex systems being studied through an interdisciplinary approach is the *Innovation Studio* at Rhode Island School of Design (RISD), led by Professor Charlie Cannon. It is an interdisciplinary initiative that typically tackles large-scale environmental or infrastructure problems, such as redesigning New York City's entire waste stream, or climate change, or designing sellable products from agricultural waste.<sup>823</sup> The studio invites industrial design, landscape architecture and architecture students to take part, and they start by building a common knowledge basis of the phenomenon at hand. Drawing on their disciplinary backgrounds, the students combine their expertise and imagine the most comprehensive solution to the problem. The challenges are complex and deal with sustainability and social innovation. The Innovation Studio brings the academic world to real life, thus preparing the students to deal with large-scale systemic and complex problems as alumni.

*Arts Letters and Numbers (ALN)* is a multi- and interdisciplinary programme in which large and undefined problems are looked at from various perspectives. Run by Professor David Gersten of Cooper Union and RISD, ALN explores the boundaries of knowledge, engages in new forms of education and draws from the various areas of the arts, science and humanities. It is a process of creating an understanding of the world, unforeseen and unpredictable as life itself. As it is described on their website:

*Arts Letters and Numbers is a non-profit arts, education and publishing organization dedicated to creating creative exchange across a wide range of disciplines, including Architecture, Visual Arts, Theatre Arts, Film, Music, Humanities, Sciences and Social Sciences. Arts Letters and Numbers conducts workshops in educational and cultural institutions worldwide in collaboration with theatre companies, artists, writers, actors, musicians and filmmakers. It operates an ongoing series of educational workshops, performances, and film productions.*<sup>824</sup>

As an emerging structure, Art Letters and Numbers is a promising forum for investigating new ways of education and knowledge creation, as it is "...opening spaces within broad human and disciplinary geographies; spaces of participation, of communication, of reciprocity, for people and their works to listen to each other, to listen to the world."<sup>825</sup>

In the PBL Lab at Stanford University, Professor Renate Fruchter has developed a complex programme called AEC (Architecture/Engineering /Construction) Global Teamwork, in which students from respective disciplines work in teams to design and plan a complex building. Fruchter writes:

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<sup>823</sup> Cannon, Charlie. "Innovation Studio." <https://www.idsa.org/charlie-cannon-innovation-studio>., accessed January 19, 2020.

<sup>824</sup> "Arts Letters & Numbers." <http://www.artslettersandnumbers.com/>, accessed January 19, 2020.

<sup>825</sup> Ibid..

(AEC Global) Teamwork is the process of reaching a shared understanding of the design and construction domains, the building to be built, the design process itself, and the commitments it entails. The understanding emerges over time as each team member develops an understanding of his/her own part of the project and provides information that allows others to progress. The process involves communication, negotiation and team learning.<sup>826</sup>

All students need to maintain a constant, high level of engagement in the project and have a well-defined responsibility to represent their profession within their team. All team members participate in the concept formation from the very beginning, allowing their disciplinary perspectives to contribute to the decision-making. Teamwork is strongly monitored and facilitated. Through playful exercises and games the importance of knowledge transfer and information exchange is demonstrated at the beginning of the one-semester class. The students learn that they are all important components of a common endeavour, *a community of practice*, and the success of the team depends equally on the performance of all its members.

These examples create new and inspiring horizons from which we can all learn when exploring possibilities for new ways of knowledge creation and interdisciplinary pedagogy.

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826 Fruchter, 2001:427.

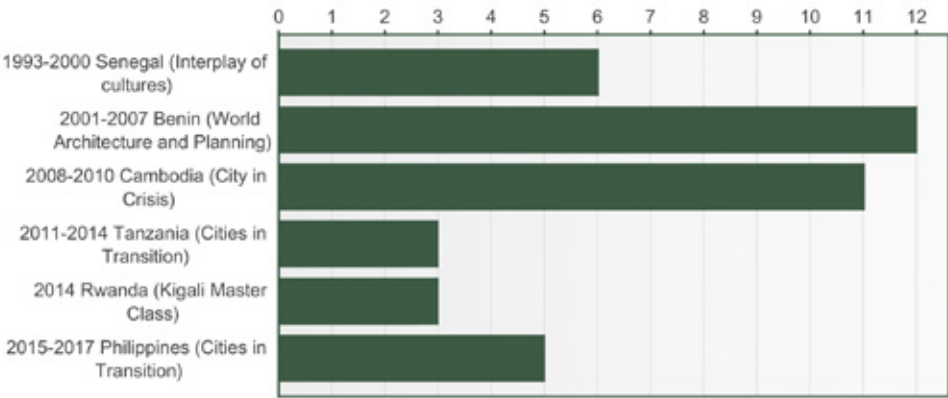
APPENDIX 5

INTERPLAY OF CULTURES – Alumni Survey

In late 2017 and early 2018, when preparing for the 25-year jubilee exhibition of the *Interplay of Cultures* programme,<sup>827</sup> a web survey was conducted among the alumni of the programme. Between 1993 and 2018, the courses have run under the names *World Architecture and planning*, *City in Crisis* and *Cities in Transition*. Out of ca 200 alumni, we received 40 responses. Thirty-nine of them allowed their answers to be anonymously quoted. These answers have been collected in this appendix.<sup>828</sup>

1. Which YEAR did you participate in the field work of the course and in which COUNTRY?

Number of replies: 39



2. Did the course impact on your PERSONAL LIFE and THINKING?

Number of replies: 39

	1	2	3	4	5	6	7	Total	Average
none (1) - significant (7)	0	2	0	2	10	15	10	39	5,69

3. In what way?

Number of replies 36

- I found the in-situ experience in Benin quite transformative both personally and professionally: it developed my interest in world travel, particularly to the developing world and it made me consider how we can be much more considerate of the materials that we use and how we can be more resourceful in designing in particular environments.
- Interplay of Cultures was one of the main reasons i came to choose the Helsinki University of Technology (as it was called at the time) as a destination to be a

827 Hollmén, 2018. Between September 2018-January 2019, the Finnish Museum of Architecture hosted the exhibition 'Interplay of Cultures - 25 Years of Education in Global Sustainability and Humanitarian Development at Aalto University'.

828 Identifiable comments have been edited, also those written in Finnish. The number of replies per question, however, has not been changed. Typos in replies are respondents'.

guest student from Italy. I lacked such an option in my home university and was always interested in understanding the world and its built environment as the embodiment of trans-cultural relationships.

- We worked with a team that was handling waste in a poor community in Dar Es Salaam. The problems the community faced were huge (humiliation, violence, lack of resources, lack of income) and the municipality, who should be taking care of waste management, did not seem to care. It was very difficult to come up with a solution that would help the community because we felt the same helplessness and hopelessness as the community. Nevertheless, we managed to create a good solution in the end.
- The course was an eye opener for the developing country realities and the problematic of development.

I have since then, at least partially, due to the influence of the course lived and worked in Asia and Africa for more than 10 years, including a 2 year period with UN in West Africa.

I feel that the course gives a welcome understanding of the world that we live in and the dependencies, responsibilities and solidarity that we should have.

- I did not make it to the excursion so I imagine the impact was somewhat lesser with me. Yet I gained a view on global phenomenons of the built environment, understanding and appreciating the meaning of activating locals (planning, construction, running), adapting to the local conditions and culture and finally remembering the people.
- Both the World Architecture and Planning course itself and the excursion to Benin were unforgettable. The local people in Benin seemed to be able to live in the moment and enjoy life a lot more than I do. I actually decided to make some changes in my personal life after the course and continued my art studies abroad. I ended up coming back to architecture a little later and ended up working in South America at an urban planning office.
- It did extend my horizon beyond the industrial western world.
- The trip made me realize how dangerous imported architecture can be. Working with local architecture students and hearing what kinds of issues they face once they graduate made me re-evaluate my position in regards to designing in another cultural context.

Also my approach to architectural design changed radically due to being able to disregard many common hinderances that exist in designing in Finland.

- Especially the field trip helped to understand how different starting points people have in this world. Locals have the best knowledge of their environment and their needs in everyday life.
- My thoughts went out to Benin every day after the course a year or so. I wanted to continue with the course project, I wanted to make something out of that experience. Eventually I didn't.
- changed some preconceptions and confirmed some doubts I had. Thanks to this experience I could later form my own idea of how I could do things
- as a former exchange student I felt to be in privileged a position to observe people - local people and my fellow students. From my observations I understood how important it is to expose oneself to foreign cultures and new people.
- It made me reflect a lot on how important it is to respect other cultures and understand them, before trying to give advice on how things could or should be done. The Most valuable thing for me was to see how, if we want to talk about sustainable development it is best to do it with ourselves before going to other countries to tell people what to do.
- The field work in Benin and Togo was essential to complete the course. Being an Erasmus student, it allowed another confrontation with a very different reality, early during my studies.

More than a solely architectural or urbanistic exercise, it was an important cultural input in my personal horizon. The course helped to confirm my interest in the intercultural context and to direct me to my present work.

After the time spent in the field the competition on Villa Karo was another way to explore creative architecture in another context.

- The course expanded my knowledge in the issues around urbanization in the developing countries.
- It was my first visit to Africa.
- I believe that when you take this course is because you already have a specific interest, however, being exposed to reality like this and all the fieldwork are always definitely a huge learning experience
- The course offered a more human and hands on perspective for architecture and urban design in developing countries. We had the opportunity to talk those who lived on the site and work on a project together which is rare for a university studio course.
- I realized that the reality of urbanization and urban life is very different in developing countries compared to Western world. Yet the biggest amount of people will live in those developing countries' megacities and those cities will have a huge impact to our common future through climate impacts, innovations and so on. It is also very healthy to understand the different scale of things around the world - Finland is such a small country and our problems and cities are really small compared to majority.
- Getting to know people from some other part of the world.  
Understanding the complexity of useful help
- Back in 2013, this course in combination with another course I was taking called A personal architecture, forced some deep questions about who I am as an architect and what kind of architecture I want to be doing.  
The contrast between an introspection and the discovery of a certain urgency of action in the global south really motivated my creative mind to be a part the professionals who work on creating virtuous environments with people who do not have access to much at all.
- One of the most interesting and memorable courses during my studies. As somebody who had never been in Africa before the trip raised a personal interest also for this part of the world. I haven't revisited the continent since my studies but I'm planning to do that at sometime in the future. Visiting Benin shed more light on the challenges of the developing countries.  
I am skeptical of what large scale impact an architect can achieve in these circumstances. On the other hand, I noticed that it is not worth underestimating the impact of a well adapted project to a local community.
- Awareness and mind opening
- It puts things in perspective. Some people in this world have to struggle to makes end meet, but at the same time they still take as much joy out of life as the more fortunate.
- My first trip to sub Saharan Africa. Bonded tightly with the group of students there. Got many special experiences while there, which helped understand the local way of life. For example:  
Got to know a local village and experience it's culture  
Did design work for a local business man in Grand Popo  
Was invited to a local funeral, where the life of the deceased was celebrated  
Investigated local village planning and architecture  
Was further inspired to get international experience in the future as well  
Got sick and was hospitalized upon arrival back in Hki :)
- After seeing for myself some of the living conditions of the less fortunate, I've been even more interested in global fairness than before.
- It allowed me to discover a whole new world that I'm very interested in.
- - Moving et discovering outside of european way of living and considering urban planning.  
- Discovering another natural environnement and the traditionnal and modern way to build with and live in.  
- Consider social problems that I had no idea, and that I can find them all around

the world, even in European countries. These social questions matter a lot in my architect and urban planner career.

- In hindsight, it wasn't so much about entirely new knowledge or learning more facts about the world, but the course overall had a strong impact on what I felt I could do as an individual. That it was actually possible to go to places and see them, learn from them.
- Especially in pre-modern society such as small villages in Africa, I was able to observe how the human being enjoys their life with their adjacent dwellers. For example, how they deal with the surrounding in village scale. So, I believe, when democratic society considers about bottom-up projects, the examples of the African villages give valuable tips.
- The course definitely had an impact on me and most of all on my thinking. Visiting Rwanda was a lifetime experience and I was lucky to be part of it. I believe that travelling and meeting different cultures have widened my perspective of the world and how I see things. It is too easy to forget that in Finland we are in a position where we have the knowledge and all the possibilities to help those people in need.
- It gave me the direction for my professional life!
- I see and understand the world, people and myself in a deeper and a more wholesome way after the course. Visiting Cambodia made me realize and appreciate my own privileged position better and it has also affected my consumption habits.
- City in Crisis was one of the most interesting courses I had the opportunity to follow during my studies. It opened my eyes to societal and human problems. Working with and not only for poor community in Phnom Penh made me discover a new way of doing Landscape architecture.
- It opened my eyes for how small changes can make a big difference.

#### 4. Did the course impact on your PROFESSIONAL IDENTITY?

Number of replies: 39

	1	2	3	4	5	6	7	Total	Average
none (1) - significant (7)	2	1	2	5	11	7	11	39	5,23

#### 5. In what way?

- Number of replies: 31
- I have thought much more about how to be more resourceful and contextual as a result of being part of this course.
- It helped me to cope with difficult situations (situations were I am far out my comfortzone), developed my problem solving skills and had a huge influence on my career choices.
- For me personally the course has played a role in developing a professional identity where the social responsiveness and understanding of human values and local conditions surpass the will to over design.
- The course made me more aware of NGO's and how different climates affect vernacular architecture. I ended up co-operating with a German NGO at an urban planning office in a South American country after the course.
- The course got me interested in projects abroad and the 3rd world in general. I did IAESTE exchange the next year in Ghana, but I've only been working in conventional domestic projects ever since.
- Maybe slightly. I do feel like I resonate more with accepting my identity as a Finnish architect than before the course. I feel like I'm more aware of my suitability towards certain design tasks.



- It emphasized the importance of participatory planning - not just abroad, but also in Finland. Planners should have an attitude to serve and listen - provide solutions through professional understanding.
- helped me redefine the kind of career I wanted to build for myself. No, I didn't have the "savior of the world" genes in my blood perhaps. But I was very good with people in a very genuine way there and I could use that. And it made me reflect on the way we finance the projects we think are for the greater good.
- I work in a foreign country and in somewhat an multicultural environment. This course gave a little sight of how different the challenges may be elsewhere - so different but still the same.
- I realized that there's a lot to learn from other cultures and it is important to be humble about that
- Indeed. Our two professors had either experience in the international context or with international organisations, and there was a strong participation from other international Erasmus students, which both helped to support an international dimension throughout the course.

The course and the exchange year both encouraged me into a more international professional activity. After my year in Helsinki I did my internship in Bolivia and my thesis work in Cuba.

I am now a freelance architect based in Switzerland and work regularly for the Swiss Humanitarian Aid, the International Federation of the Red Cross in post catastrophe contexts and development projects.

- Not really. Maybe I became more aware of the effects of climate in architecture.
- After that, I took part in the Global Studio (an international workshop that brought students of urban planning and architecture together in different locations to improve the lives of the least fortunate city dwellers), and chose to work on the same issues in my master's thesis. All this has learnt me a lot and formulated my professional identity.
- As a future architect and urban planner I think this course had paramount importance on offering practical life lessons that cannot be learned in a classroom. It was a good hybrid between theoretical learning and professional practice
- I learned a lot about user-based planning, multidisciplinary urban planning and the courses also strengthened my background values of social justice and common good as a starting point for good urban planning.
- Since 2013, when taking part in the course Cities in transition. I have been involved in a sanitation project in Tanzania where I acted as an architect and facilitator for the co-design and planning of sanitation facilities for slum areas of Dar es Salaam, within a community led sanitation project.
- The one impact I would point out is the awareness of the large and varied scope of projects one can work on as an architect.
- I would lie if I said yes. The market rules are way too strong, and I am not brave enough to exist my comfort zone. However, at the time the course took place, I was not a professional yet, and in Spain, the financial crisis was very harsh. I don't mean it to be an excuse, but I can recall the excitement that the course brought to me. If I had been a professional already, with financial stability, perhaps it would have had an actual impact on my profession.
- The impact of a building goes beyond beauty
- The course has encouraged me to keep looking for international aspects of being an architect. However, in my professional career, I have not had the chance to work in developing countries since then.
- It opened up new lines of thought for my professional development and gave new ideas of what working as an architect can be. For example I started studying participatory working methods.
- After that course I discovered which kind of architect would I like to be.
- As an architect, I developed my urban planner desire, and pushed my training and my career in that way.

- It did widen my professional viewpoint, my perception of people's everyday lives, seeing varied modernities and modes of survival. I think this has been important, and has made me more aware of the importance of research and being in touch with discourses.
- I am still a student. However, having one another perspective influence my future projects undoubtedly.
- The course had definitely a positive impact on my professional identity. During the course I learned a lot of myself and my design skills. All the supportive feedback from my teachers and other students verified me that I'm able to operate in different contexts. I gained confidence that I'm able to observe and put the information I learned into practice.
- I still work with similar challenges
- The course and its teachers taught me that architecture can have deeper meaning and impact than I had previously thought. Architecture can be used as a tool for fixing or alleviating wider societal and social problems and it can be a joint effort between the architect-facilitator and people through a participatory design process. I wish to keep these principles as the building blocks of my professional identity.
- It helped me to reveal something that was in me. It helped me to shape some of the projects I've done later on. Unfortunately The professional world I was working in is at the opposite of what we've done in Cambodia. But today I quit this work and started doctoral studies. My topic is directly linked to and influenced by my discoveries during the City in Crisis project. So it didn't influence my first professional experience but it is the foundation of my new career.
- I realized that good solutions are often simple solutions.

## 6. Did the course impact on your professional CAREER?

Number of replies: 39

	1	2	3	4	5	6	7	Total	Average
none (1) - significant (7)	2	3	4	10	8	5	7	39	4,59

## 7. In what way?

Number of replies: 29

- My overall experience at TKK impacted on my career in that it gave me a much more international outlook and I have continued that through my career and now work internationally.
- The course strengthened my interest in human settlements, which came to be my field of specialisation, since I subsequently followed a postgraduate programme in Human Settlements in Belgium, and then came to teach myself, as Assistant Professor in International Urbanism on Human Settlements in Development.
- Very much although it is difficult to say that because of this particular course or because of my interest towards global questions.
- The course has been an integral element in my extremely international and global career.
- (See previous answers)
- See previous question.
- It could've, and the momentum was there, but in the end my personal life took centre stage and I did not have the energy and willpower to go on. I feel like this was still for the better.
- 7. We built a Youth Center in Cambodia after the course, but none from our team of six has continued working on similar projects full time. Naturally the 4-year project was huge learning experience for all of us, and has given experience

for creative problem solving, as well as using participatory design and design methodology. It was also very useful to do fundraising and communications

- I started to study development geography at the university of Helsinki in the autumn 2012 and finished my master studies in 2016. I did a 4-month internship in Tanzania in 2014 (Dar es Salaam/Kishapu region) and collected data for my master's thesis, which was about evaluation of a water and sanitation project from a gender perspective.
- The interaction with the teachers and the guest lecturers was very fruitful and the field work period was eye opening
- The course in itself did not change everything, but responded to a pre-existing interest which I had: to work in the international context, in development and cooperation. It did positively help me as a field work/experience when applying for positions in my career.

Not really. After the course we had a group who tried to start designing a vocational school in Benin. But this project never really kicked off.

- At some point I had plans to aim for a career in global development, but after I understood how most of the development consultants actually work I figured I wouldn't want to be part of that. An NGO might have been an option, but at the same time I was offered a job concerning sustainable development which I thought to be interesting enough although mainly in Finnish/developed world context. The issues of sustainability in the so called developed world are extremely important and challenging - and a must to solve if the aim is that the developing world will not follow the same extremely unsustainable path.
- Not really big impact as I am working in Finland in public sector. But earlier when working in big international consultant office the course did have some impact as I had some experience of working in international environment in developing countries that I could use as an advantage in our international projects for instance in China.
- My profile is not very classic; planning and designing toilets with communities from unplanned areas definitely has impacted my career or at least the networks I roam around. I have yet to see the long term consequences.
- I do have an interest in international projects. I also worked abroad after the course.
- Same answer than before.
- The course has encouraged me to keep looking for international aspects of being an architect. However, in my professional career, I have not had the chance to work in developing countries since then.
- We ended up doing a building project in Cambodia with my friends and colleagues. During the process I learned many new skills, got several opportunities to talk in front of an audience and gained some publicity through the project.
- My career has been completely focused in the direction it currently is thanks to the course of Cities in Crisis.
- As an architect, I developed my urban planner desire, and pushed my training and my career in that way.
- I think it did play a part in my decision to move abroad for doctoral studies - which of course has impacted my career. Professionally, the course really provided a first example for me of what it feels like to jump into a different culture from the very static Nordic existence and understanding of architecture.
- When I began my diploma work, the experience from Rwanda was one of the grounds to consider social sustainability in building environment. This is because I was able to monitor how the unofficially built houses and villages work smoothly with minimum hazardous impact.
- The course hasn't had yet a direct impact on my professional career. However if I ever had a chance to be part of a similar project I wouldn't hesitate to participate. I think that the course confirmed me that I have the ability to work in foreign cultures and throw myself into different contexts.
- Yes. The project designed during the course was published all over the world and

- has had a significant impact on my career.
- The course was followed by a four year process of designing, fundraising and building a youth center in Phnom Penh. The project was followed by presentations, workshops and exhibitions. This experience helped me gain more responsibility in my current job and eventually helped me get a new employment.
- as mentioned on the previous question it is the starting point of my new career. My researches will deal with traditional and sustainable practices and their potential uses in contemporary project. "Revealing the vernacular character of landscapes: How can traditional practices improve contemporary design and planning projects?" is the title of my ongoing thesis. I discovered Vernacular architecture during city in Crisis project and I traveled around the world doing pictures and research linked to vernacular landscapes and this was the base of my actual career choice.
- I don't think it has had any bigger impact on my career, but I got some really nice friends, from the course, that might cross my road in the future.

## **8. What was the most important thing you learned during the course?**

Number of replies: 36

- Importance of context, use of appropriate materials and resourcefulness.
- I cannot summarise this in a simple way, but surely there was a clear message in terms of how much the built environment was a repository for a wide array of dwelling cultures which required a thorough understanding as city-making.
- Team work, understanding different realities, not to underestimate own abilities, problem solving skills
- The course opened my eyes and my mind to the realities of the developing world, but also to the fact that the fundamental aspirations and hopes of people are rather universal.
- Positive change can be done gradually and with small steps.
- The field trip to Benin was definitely the best part of the course. I learned that not much is needed to be happy.
- No matter the circumstances, people have similar joys, hopes, fears etc everywhere.
- The more flexible and malleable one is; more open to influence; and more ready to spontaneously partake in things; the better one can learn from a myriad of situations and people. But as much of learning seems to be about luck, timing and chemistry as well.
- Respect - when working in different cultural environment
- About the importance of participatory planning. Realized the difficulty of urban planning if democracy is not working, if there is corruption etc.
- the importance of scale - how many things could be achieved once we set our threshold for consumption a bit lower.
- the importance of the group - and that I belong to none and I can get things done nevertheless.
- the importance of having fun - not new this one, but it was such fun and a great feeling all the time!! I wanted this to shape the way I live and work!
- Meeting new people and new cultures is far more important than the material reality - and it is the skill that needs improvement
- I think there were several important lessons learnt:
  - . how to collaborate with international students, with different backgrounds, experiences and work methodologies
  - . that working in a wholly new context (Grand Popo, Benin) cannot just be summarized in a single factsheet but which has to be experienced with interdisciplinary "feelers" / criteria
  - . and that such a work requires professionals with broad skills and flexibility, as well as a fair capacity to learn from the field
- That everywhere the issues are very specific and that listening to the real

needs of the people is the most important thing. Implementing our own ideas without taking into account all the specific wishes and requirements is not a long term solution.

- The experience as a whole of the culture, environment and the planning/design context was the most significant.
- People management and how to deal with different backgrounds under more or less extreme circumstances and cases.
- how difficult it is to work with people from another backgrounds :)
- The most important lesson was to learn to work with the different stakeholders in the project. This broke the hierarchies to open up a network of connections between agents that shaped our ideas for improvements on the site.
- That urban quality and quality architecture are as important in developing countries than in rich Western countries or even more important, giving people dignity and integrating them better to their own environment thus respecting it more.
- To get an idea how you could help people in a developing country
- During the course I learned the uttermost importance of working in multidisciplinary groups when trying to tackle complex problems.
- That as an outsider one can have a fresh and relevant view on a specific local challenge. Design thinking is a valuable asset, and it's paramount to get new influences to keep on building on that skill set.
- Human race sucks. I developed a very pessimistic view of the World. I had to read a 1987 book about problems in 3rd world cities (Squatter Citizen), same year I was born, and I could realize that 23 years later (then) and 30 years later now, the problems are the same or worse. However, I could learn that big policies made by big men, in big buildings, with big money, are mostly noneffective. I also learned that the little hope we have, is to apply the "think global, act local" slogan.
- You can design good buildings, but they have to society and to be a good building
- We got to see for ourselves what urbanism is in a developing country.
- The complexity of designing in a foreign culture; not taking anything for granted; it's important to ask, not presume.
- You can specialize as a professional in helping people.
- To be aware of natural environment and events (monsoon, flood, heat, humidity...) in the existing way to deal with, especially the water subject and the ground impermeability.
- It was not only during this course, but also many times over afterwards that that I've come to understand that people everywhere want to live normal lives. This sounds super simplistic, but it's actually a tricky thing to keep in mind, as when we talk about "other places" we usually project a framework or a narrative around them. What we should instead do, is to think of each place as its own center that defines its relationship with the world around it.
- The importance of proper education.  
It was invaluable experience for me that I was in Africa with proper guide of architects working in local area. (compare to what I learn from previous education institute)  
In further, I got a belief that the impact what the local community have from the visitors with good intention will possibly lead a society to develop to positive direction.
- The most important thing I learned was that with my profession I have the tools to improve the life of the local people and have an affect on those who are in need. However the process of a new design or improving the environment must be extremely delicate and most importantly respect the local culture, atmosphere and people. The outcome should always be something that the locals can relate to and feel as their own.
- How rewarding, interesting and fun it is to cooperate across cultural boundaries.  
+ What an impact we can make with architecture both on the level of dignity and

self esteem as well on the level of solving practical challenges.

- Participatory design methods and designing together with the users of the building.
- The power of participatory project. The importance on getting the user involved or even more at the source of the decision making process.
- The thing that I most remember is the positiveness among the Cambodian people we met and the diligence of the people living in poorness. Seeing there thrive for progress made me convinced that these kinds of cooperation's (even if just a few succeeds) will make their everyday life better.

#### 9. Are you still actively following the issues of global sustainability and humanitarian development?

Number of replies: 39

	1	2	3	4	5	6	7	Total	Average
not at all (1) - very much (7)	0	0	4	6	9	8	12	39	5,46

#### 10. Are you still participating in projects related to global sustainability and humanitarian development?

Number of replies: 39

	yes	no	Total
professionally	14	25	39
volunteering	11	28	39

#### 11. If yes, can you tell what kind of projects and in which countries?

Number of replies: 20

- I am regularly involved in the Andean countries (Peru, Ecuador) and in West Africa (Ghana). I have also had the opportunity to work in broader partnerships including South Asian countries. South Africa and Mozambique have more recently come into the picture thanks to curriculum development and capacity building initiatives.
- Professionally: academic literature on sustainable development, grassroots entrepreneurship and sustainability  
Volunteering: global trade and long supply chains (textile industry, electronics)
- Have had various projects over the years in Africa and Asia:
  - Sierra Leone, WFP depos, UNDP refugee camps
  - Guinea Conakry, WFP main office
  - Liberia, WFP depos
  - Mongolia, commercial developments
  - China, eco-travel destinations
  - Kazakhstan, commercial developments
  - Philippines, social housing
  - Malaysia, commercial developments
  - Cambodia, resorts
  - India, resorts
  - Vietnam, resorts
- I've worked on urban planning projects in Quito, Ecuador. I've also volunteered on helping communities in the coastal areas of Ecuador to recover after earthquakes.
- Mostly working with immigrant and refugee issues in Finland. Mostly voluntarily. Still following actively the work of ASF International. Sometimes able to work professionally, bu comissions are very small



- I would like to, but not at the moment.
- I am a volunteer support person. I work as a volunteer 'mentor' for a lonely mother in Finland. It is not a project, it's continuing volunteer work.
- I am from Sicily. I think I can get things done from here. I think I love to bring a piece of marginal cultures everywhere in the world. this place doesn't need to be abandoned and we can try out things professionally, hopefully to inspire, create jobs, communicate, change the things that went really wrong or create a parallel universe at least.
- Working as a construction expert for the Swiss Agenca for Development and Cooperation - Humanitarian Ais (SDC-HA) since 2011.
  - . Emergency mission such as 2014 cyclone Hayian in the Philippines (2 weeks duration right after the event)
  - . Reconstruction missions such as 2010 earthquake in Haiti (duration 1,5 year) and 2014 cyclone Hayian (duration 7 months) and presently in Ecuador after 2016 earthquake (duration 9 months)
  - . Training of construction professionals and sensitizing of broad public in Confined Masonry (seismic resistant construction technique)
  - . Coordination of the Shelter Cluster in Ecuador (4 months)
- Global sustainability is a key issue for instance in my PhD research. I also work to improve co-operation and empowering local community participation in Finland. Volunteering at the moment on my part is mostly via donations to catastrophe areas etc.
- Currently developing my thesis on an area devastated by a hurricane
- I work in public sector in Finland and I am presenting our region in many international networks of planning. One of our main emphasis in these networks are sustainability issues: social, ecological and climate questions connected to housing, transport and environment.  
In private life we are having a godchild in Africa so we are following the development in those countries eagerly. I am also time to time teaching in international urban planning courses in Aalto, so I meet international students around the world and can share my experiences with them.
- I am mentoring in the SGT course.  
Developing a business model for sanitation cooperatives in the global south.  
Piloting different activities with a sanitation project in Tanzania: urine selling, maintenance of dry toilets, urine and compost lab tests.
- Professional: I would very much like to practice urbanism in developing countries as a professional urban planner. I think in Finland we have excellent know how that could be implemented. However, it is quite difficult to target such projects based in Finland. Hopefully, in the future this could one aspect of the course: to instruct students how they can find projects to work on in the future.  
Volunteering: financial support to some projects in developing countries
- I'm the director of an NGO called We-Building e.V., based in Germany. We are currently building a school in Ghana.
- France : to solve the unsanitary and unworthy habitat.
- It is difficult to say which country I like to go for a project.  
But I am interested in visiting West Africa to study about the logics of humen settlement.
- I am doing my PhD around these issues about projects in India and in Tanzania. As part of Hollmén Reuter Sandman and Ukumbi I'm at the moment active in Tanzania.
- Projects with asylum seekers in Finland. Projects negotiated with NGOs in Cambodia, Somalia... Humanitarian Roster of Finn Church Aid.

## **12. What is your own country of origin?**

Number of replies: 39

- USA (1)
- Italy (2)
- Netherlands (2)
- Finland (21)
- Mexico (1)
- France/Denmark (1)
- Spain (2)
- Norway (1)
- Peru (1)
- France (2)
- Colombia (1)
- Korea (1)
- Sweden (1)

## **13. Share memories, stories or any other reflections from the course you participated.**

### **What made the experience significant?**

Number of replies: 29

- The site visit to Benin was very impactful as a time for us to come together as individuals and bond through a very unique and unusual experience of visiting a place like Benin.
- I was a guest student for the first semester only, and could not join the field trip abroad. I do not have a very important memory by one of the contributors, I believe from Tanzania, who made a significant reflection on the role of the term 'primitive', exposing all the (colonial) bias that could be embodied in one adjective. What was also meaningful was how it was exposed, without resentment, but with a great generosity and optimism that faced us all with the duty to do away with such legacies.
- When the community asked us on our first visit to the community, that how much are we able to help if we are only students. It was a good question, and I liked the fact that they did not take us as knowledgeable Westerners but that they showed some critical thinking. It was also a little bit shocking because it also made us think - how much can we actually do for them since we are only students.
- The international group had an extremely good energy and spirit. Henu and Veikko were enthusiastic and inspirational team leaders, with a deep local know how and understanding.
- The teachers, Henu and Veikko, were amazing, and they deserve a warm thank you. I guess we all got sick during the trip but it did not matter. I even got parasites, but it was all worth it. We got to experience the voodoo rituals and a lot of magic happened. I also enjoyed getting to know the local village and interviewing its inhabitants to be able to make an urban plan for the place. Some of the coursemates became good friends with whom I'm still in contact, though I took the course 14 years ago. Yes, it was the most influential course I had during the long years of studying.
- Veera Seppälä and I visited a community of rastafarian inspired people in the outskirts of Rufisque, Senegal one night. Our contact was a guy running a metal/recycling workshop in the city and he took us to their place in his tiny car. In their camp we sat around a camp fire and they shared their philosophy, locals smoking plenty of weed while at it. I don't remember much about their stories, but it was an African night to remember.
- For me the significance of the course arose from amongst the people, both students and teachers, who made the course what it was. Of course working intensively in an inspiring environment played its part, but in the end each moment that I shared with another person in the framework of the course made it worthwhile.

- Cambodia as a country is beautiful, but also extremely sad due to its tragic history and infamous political situation currently
- The best part was meeting local people from poor communities and visiting their homes. You don't really do that when you are a tourist.  
I have good memories from a trip to the Tonle Sap lake. We visited a village where they dried prawns on the ground. We went to have a lunch and climbed up to a local house, which are standing on pillars and have almost a see-through floor. The prawns we ate there were the best I have had.
- For me the course was especially important for reasons I already mentioned : a chance to observe people (mostly fellow students) in intercultural situations and evaluate their interactions with foreign people
- The best thing about the course was to interact with another culture and learn from the local people
- I keep a good memory of the course but also of my whole exchange year in Finland, because they both confirmed my interest in the international context.
- Henna Kjisik and Veikko Vasko were amazing teachers. The whole course was very interesting and I think we were all very motivated. Of course the trip to Benin was great and something one can never forget. In a few days we basically measured the whole Grand Popo village under the hottest sun. The locals didn't understand why we worked so hard. I hope the drawing will be displayed in the exhibition.  
The course is definitely one of the most memorable things that I have from my studies in TKK.
- Collaborations
- One of the most unforgettable journeys of my life has been our field trip to Mali dogon lands. We were walking around in desert and sleeping on the roofs of the huts. The life around us was very different from ours, like a remembrance of ancient times where there was no electricity and life was very simple and hard though significant. The architecture and urban pattern of these ancient villages was very original and impressive. It was both ancient and temporary at the same time as it was all made out of clay, that had to be restructured after each rainy season. That was for me a very effective lesson of urbanity and basic needs of human being.
- We were a group of 30 students, from 5 different disciplines, from even more various backgrounds. Being able to communicate within the group and with the communities in Dar es Salaam was really impressive and inspiring.  
We were staying on the beach in small bungalows in Dar es Salaam by the ocean. We had breakfast at one of the community leaders' daughter's house every morning and got to bond with great locals!  
We worked very hard, very long days. The tight schedule forced us to give the best of ourselves at all times. In the bus in the morning on the way to one of the settlements, caught in the traffic for too long, hot and tired, finishing the preparation to the upcoming workshop with the community.
- I don't remember having any specific expectations of the course except that it was highly recommended by students who had participated earlier. Obviously the most memorable part was the trip to Benin.  
In the course there was a lot of topics that were new to me and I guess also to the students in general; for example globalisation and NGOs. As all the other courses were more or less about desinging stuff this was a very useful albeit superficial glimpse into international economy, politics and distribution of wealth. I found all this important and relevant and wondered why any of this wasn't touched upon in any other course. I still find these issues very interesting.  
The trip itself was overwhelming but also a fantastic experience. The first impression I had of Grand Popo felt like landing on the moon. I also remember the suffocating heat, at first pleasant after the Finnish winter but a bit later less pleasing. A tough environment for a lad from the Nordics. Doing a project there was tough but rewarding! All and all a fantastic course!

- I was shocked in every single class I assisted. In my experience, I had always been aware of 3rd World problems from what you see on the news. But barely understanding it, or caring enough to try. However, to see it explained by architects and engineers, for architects, and analyzing each case from a technical perspective, taking in account social, economical, demographical, cultural, urban development, geographical, and environmental factors, was deeply enlightening. It allowed me not to just see sad pictures of hunger, but to actually understand the starting point, the causes, the development, and possible solutions to the problems. And more important, where do architects and highly educated people (meaning with high degree academic formation) fit on the efforts to solve this issues.
- I think the design task didn't leave as much an impression, but trying to understand the society we were working for. The deep divides and mistrust that history has created and to try to come up with something suitable to that.
- I remember with fascination that group of architects/activists preparing a campaign to save the Boeng Kak lake from the urban development plan. This was the only time during my whole education were I got the chance to think about the reality of the big majority of the population around the world.
- Later on, I've come to appreciate the time in Benin for different reasons than I did immediately after the course. I think for me it was the first time I had been somehow in close proximity and emotional contact with people whose lives were really different from mine. This also meant facing one's own privileges as a white European, as someone enjoying free higher education and opportunities to travel. And if we think about the world today, and current political tendencies, it feels like a very valuable lesson.
- Participation in Kigali Master Class was a unique experience for me in a sense that the studio had specific goal and theme. With having two weeks of travel with a matured architect was chance to have another perspective, how to see the city and the society.  
 Perer Rich, the architect, had good connection with several foreign architects practicing in Rwanda. So, we, 17 students and two other teachers could visit several building site; some were under construction and some were finished. We had enough time at the each place to carefully look in to the details and listen the stories of the building from the building designers.  
 Thus, comparing to other studio what I have been taken in the school last years where I merely wait for 30min advice on unsure sketchies, the on site experience in Rwanda was intensive learning time.  
 Also, being exposed to sheerly different environment helped me to understand where I practice building design nowadays. I have been three significant different climate, Korea, Australia, Rwanda, and Finland. Beyond the ideology of the architecture, the locality of the built environment was much more dominant and infuence in our life more significantly.  
 Finland would be a county where needs longest requirement for construction when Rewanda has one of a simpliest lists. However, in warm countries, like Rwanda, I could see there are endress possibilities for design with freedom. So, invite different values to the building.
- One particular memory from the course is from the site we visited. We decided to give a football to the kids we met at the site. They were extremely happy of our gift and before we realized we were all playing football with the whole village participating to our game. The atmosphere was something I have remembered with warmth afterwards.
- The genuine connections to the local people through the true involvement in the community.
- We had an excellent international team back in Finland. Everybody was passionate about the issues of this project.  
 The trip to Cambodia, the exchange with local student, the discovery of the local NGO's work were key moments during the course.

Meeting local poor communities in phnom penh and trying to understand their problem was an unforgettable experience.

The discovery of a new cultural, not as a tourist but by getting involved form the heart of the country was an amazing experience.

- As a school course this was really different since you got to work for real people in real projects. Going to a country not knowing what will face you and then finding your own project to realize was really rewarding. Also knowing that some of the projects has been realized in the past, gives an extra level of motivation to the course.

I would any day recommend this course to students of Architecture. Since it gives both a perspective to the architecture at home, and gives you the opportunity to work for real people in real projects but in a completely different environment and culture.

PHOTO SAIJA HOLLMÉN



## APPENDIX 6

### World in Transition Courses

*World in Transition* (WiT) is a combination of *Creative Sustainability* courses<sup>829</sup> organised by the Aalto Schools of ARTS, BIZ and ENG. The courses deal with development issues and globalisation. WiT brings them together to form a multidisciplinary entity and to collaborate with disadvantaged communities at the grass roots level.

The history of the Aalto University courses on development issues and globalisation dates back to the time when the three universities were still separate. Over 25 years ago, the Department of Architecture at Helsinki University of Technology launched a course called *Interplay of Cultures*,<sup>830</sup> that focused on participatory urban planning and building design.

The Sustainable Global Technologies Programme (SGT)<sup>831</sup> was launched in 2006 at the Department of Civil and Environmental Engineering at Helsinki University of Technology (HUT). The SGT Programme offers a 20-credit Master's and PhD level educational module on sustainable technologies that combines viewpoints of urbanisation, technology and development. Great emphasis has been put on teaching methods that enhance communication and interaction between students, lecturers and collaborative project partners. The SGT programme was designed to attract students from all departments and fields of study, first at HUT and later at Aalto University. SGT is now aiming to increase awareness, education and research in the fields of sustainability, development and technology in multidisciplinary environments. Courses included in the module are State of the World and Development (2 ECTS), Sustainable Communication (2 ECTS), Sustainable Global Technologies Changing course (6 ECTS) and Sustainable Global Technologies Studio course (10 ECTS). The SGT programme has been collaborating with continuing education courses at Aalto Professional Development (AaltoPRO), the Asian Institute of Technology, the University of Nairobi, UN-HABITAT and UNEP.

In 2009, Helsinki Business School launched *How to Change the World* courses including *How to Change the World*, Innovation toward Sustainability (6 ECTS), and *How to Change the World*, Sustainability projects (6 ECTS). The *How to Change the World* project course (6 ECTS) focuses on sustainable business, social entrepreneurship and inclusive business.

Although these three course modules were offered by three different Aalto Schools and disciplines, architecture, business and engineering, soon after Aalto University was merged it became evident that there was overlapping. Collaboration would bring synergy and enhance both multi- and interdisciplinarity and would be economically feasible. Since 2012, the three course modules have been developed together under the *World in Transition* umbrella.

### WiT Course Timetable

*World in Transition* launches the academic year with a common lecture course, which prepares the students' mind-set to understand the dilemmas of globalisation and development. The aim is to provide the students with a basic understanding of the various cultural contexts, as well as prepare them to recognise problems and possible solutions. After the lecture course, the individual courses continue to deal with the themes from the point of view of their own disciplines: urban development, architecture, engineering and business management.

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829 Creative Sustainability Master's Programme at Aalto University

830 See Sections 1.4.4.1 and 6.2.1.

831 See Section 1.4.4.2.



The spring term starts with a period of seminars and lectures, during which the students from all the WiT courses come together to prepare their projects prior to a field trip. The emphasis is on the socio-cultural, economic and ecological aspects of the country and city where the field trip will take place. The students are provided with a wide range of background information on the context and the communities they will be working with.

The seminar period also allows the students to get to know each other by means of group exercises that prepare them for field trip teamwork. The students from different disciplines group together to form multidisciplinary teams. Each of the groups will choose a project related to a certain community that has been prepared in collaboration with an NGO in the partnering southern country. Emphasis is on a participatory approach, because the work is done in close collaboration with the local people. The aim is to allow and facilitate change towards better environment, products, services and processes, with the aim of empowering the local people and society.

### **WiT Field Trip**

The two-week field trip takes place in the academic period IV (second half of the academic year). The location of the field trip varies depending on the contacts and resources available. In the academic years 2012-14, the field trip took place in Dar es Salaam, Tanzania. WiT collaborates with the Centre for Community Initiatives, CCI, which is a non-profit organization established in 2004 in Tanzania to help poor communities develop their quality of life through sustainable solutions. In 2014, as part of the WiT courses, a Master Class in architecture took students to Rwanda to design public spaces and buildings with local communities in the rapidly growing city of Kigali. In all cases, local universities and students have been involved with the course, in order to help Aalto students access the local communities and interact with local people. The connections with the partnering countries, institutions and NGOs have been established through the relations and networks created by the WiT course teachers in their development-related projects.

The students from different disciplines need specialised tuition during the field trip and the entire design studio. Teaching from every branch of expertise is required in order to prevent misunderstandings and ensure positive results. A course of this intensity requires considerable responsibility on the part of the organisers; it is not irrelevant how the student projects are outlined when working with disadvantaged people. There must be no risk of misleading the course of development of a community, and possibly leading to tragic consequences. Therefore, appropriate expertise is essential to ensure the right methods and approaches for problem solving. It is vital for the success of the process that strong cooperative teamwork is developed with local experts and resident groups. Collaboration with other universities and institutions is also of vital importance.

### **Studio Project**

The projects are defined with the local community and finalised after the field trip, as the teams will continue to work on their projects once back in Finland. Each of the students gets tutoring by a teacher from his/her own discipline, outlining his/her project in accordance with the theme of the multidisciplinary group.

The deliverables include studies and reports of local socioeconomic and cultural issues, architectural projects, such as housing and public building design, product design, urban planning and local business development. The final review takes place at the end of the academic year.

**Feed Back Trip**

Once the studio projects are finished, at least one member from each team is preferably provided with the possibility to travel back to the partner community, to share and present the results of the design period. The aim is to facilitate the implementation of the projects, to create ownership and empower the communities. The local partner must not be left with a feeling of cultural exploitation; the information and knowhow gathered during the course should be shared with the communities and put into practice.

## APPENDIX 7

### KIGALI MASTER CLASS with Prof. Peter Rich – Overview<sup>832</sup>

The Kigali Master Class was an advanced building design studio organised during the academic year 2013-14 by the Chair of Public Buildings at Aalto University, Department of Architecture, with the support from the Asko Foundation. It took students of architecture to Kigali, Rwanda, to learn about the features of a foreign culture and to work with disadvantaged local communities. The assignment was to design a public building for an existing need, using participatory planning processes and collaboration with local people and communities.

The focus of the course was on community empowerment through participation, sustainable design solutions and culturally informed architecture. The course included studies on local building traditions and materials, as well as the social, economic and climatic characteristics of the local culture. It aimed at providing students with a wider perspective and understanding of the processes of practicing architecture when working in various cultural contexts, as well as developing the students' value system and sense of responsibility.

The course approach was partly based on the work of Ukumbi, a Finnish non-profit organisation of which the founders, the architects Saija Hollmén, Jenni Reuter and Helena Sandman, were awarded the Asko Avonius Design Award by the Asko Foundation in 2012. Ukumbi offers architectural services for communities in need. Its work is based on acknowledging locality and culture as a solid base for creating architecture that is rooted in society and local needs, raising quality in the built environment and providing possibilities for development. The founders also teach at the Aalto University Department of Architecture. This inspired the Asko Foundation to contribute in organising a master's course that would follow the principles laid by Ukumbi. Peter Rich, a principal architect at Peter Rich Architects in Johannesburg, South Africa, and a former Professor of Architecture at the University of the Witwatersrand in Johannesburg, was asked to be the Master of the class. His designs are rooted in Africa and show a profound understanding of African space making. His long-term experience in teaching, as well as his internationally awarded approach to creating architecture, brought the Master Class the values and quality it needed. The other teachers for the class were architects Saija Hollmén and Helena Sandman. The professors and architects, Markku Komonen and Juhani Pallasmaa, also board members of the Asko Foundation, were invited as visiting critics for the class. The key persons in Rwanda were the architects Tomà Berlanda and Timothy Hall, who helped in creating connections and brokering us into the communities.

An integral part of the course was the field trip that allowed the students to gain an understanding of a specific country in the developing world and to learn how architecture is rooted in the culture and local issues. Kigali was chosen to be the location for the field trip due to Peter Rich's professional relations and connections within the city.

#### Prerequisites

During the autumn term 2013, ten selected students were required to attend classes that prepared them to understand issues of globalisation and development. The Kigali Master Class belonged to a set of courses called *World in Transition* (WiT), which is a collection of courses concentrating on global issues and sustainability, organised by different schools of Aalto University.

The Kigali Master Class was launched with a full day seminar on January 2014, which included presentations on Rwandan culture, history and its present situation. The seminar also discussed climatic issues, and general features of African architecture.

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832 Hollmén, 2014:11-21.

## Rwandan context

Rwanda is a unique country in the African context: unlike any other African country, it has only one tribe, the Banyarwanda, inhabiting its territory. Due to reasons dating back to colonial times, the different classes of the Banyarwanda tribe, the Hutus and Tutsis, haunted each other and caused a vast diaspora of the Tutsi population to neighbouring countries. The enmity led to the tragic genocide in 1994, during which almost one million people of a population of nine million were killed, a million children orphaned, and the country's infrastructure totally destroyed. Since then, in only 20 years, Rwanda has witnessed unbelievable development and growth, with the nation united and determined to overcome hatred and rancour.

Rwandan society is organised around a communal system called *umudugudu*, which is the word for the smallest administrative unit, a 'cell' or a 'village'. The *umudugudus* are then organised into sectors and larger districts. An exceptional feature of Rwandan culture is the *umuganda*, according to which the last Saturday of every month is dedicated to community service. The *umudugudu* (cell) leader collects a list of things to do, and during the *umuganda* the inhabitants of every *umudugudu* work together to execute the tasks. Due to this unique system, Rwandan society is extremely well organized and effective. Rules are followed strictly and authorities respected. Corruption is not accepted, and there is a clear intention in society and governance to avoid it. It is a controlled society with an effective and able government – unlike many other African countries.

There are only a few public buildings in the Rwanda that are genuinely open to the public. Schools and churches are strongly institutionalised; the most public spaces are the places for trading and meeting: markets, street sides and market verandas. Public facilities, other than those for trade, are a rarity. Normally these public facilities are also strongly controlled: security checkpoints and guards on the doors are a standard. The concept of public space is thus different from that of a North-European; openness to the public is relative.

Aalto University's Kigali Master Class was primarily a public building design course, which aimed at studying how public space and buildings could serve as a catalyst for change and development. In this regard we faced a challenge in the different understanding and use of public space.

## FIELD TRIP

### Kigali, Rwanda, January 19 - February 1, 2014

The field trip to Kigali was a two-week intense period, during which the students of Aalto University had the opportunity to engage with local students of architecture from the Kigali Institute of Technology (KIST) and chosen local communities. The architects, Timothy Hall and Tomà Berlanda, provided the professional contacts needed during the field trip, while the practical arrangements were facilitated by Samela Priestley and Anton Larsen. The input of these professionals guaranteed the success of our trip and allowed us to concentrate on the issues we had come there to learn.

Timothy Hall and Tomà Berlanda committed themselves to choosing the most suitable sites and brokering access to the communities for the class. In most cases, their negotiations with local authorities allowed us to enter the communities without confusion. They had also prepared a series of lectures which allowed us to get a rather comprehensive idea of the current situation of the planning of the City of Kigali.

### KIST students

A key factor of the exercise was the participation of seven local architecture students from KIST, whom we paired with ten Aalto students. The KIST students were all interested and motivated to work with us, and their input in the class was invaluable. Being native Kinyarwanda speakers they enabled the communication between Aalto

students and the communities and individuals in the villages who could not speak English. Their ability to adapt to different situations was admirable; at times they took on the role of interpreter, allowing the local people to voice their own opinions in discussions with the Aalto students, and at times they worked on the architectural challenges as equal peers to the Aalto students in our office workshops, and outlining the various possibilities of designing the alternative site plans for the villages. Aalto and KIST students also developed personal friendships, which again opened up perspectives that mere teaching in a class never could.

The participation of KIST students was a fundamental asset to our class that cannot be overemphasised. Without their local knowledge, the class would have remained as somewhat outside observers, not achieving the depth and understanding that their presence enabled. These students are also among the first generation of architects to graduate in Rwanda, and the enormous task they have ahead of them in building and developing the country became tangible in the conversations during our visit. The Aalto Kigali Master Class might have also been an educational opportunity for them to get an outside view of architectural approaches to the development of Rwanda, challenging them to think beyond their customary assumptions.

#### Community engagement

The villages of Nyarurenzi and Kigabiro had been chosen to be our design areas due to Tomà Berlanda's knowledge of these areas. Berlanda's firm ASA has designed and is constructing early childhood and family learning centres for UNICEF in these villages. They are both within 15 km from the city centre; Kigabiro in the north, Nyarurenzi in the south, and both will grow very rapidly in the near future as the city expands.

The district officers made the current development plans for both Kigabiro and Nyarurenzi, and very little public services were envisaged in them. Our approach was to discover and outline architectural projects that would serve the community and facilitate urban growth. Each student would do an individual project, a design for a public building, but in order to do so, they would have to design an alternative site plan for the village together. Every project would be linked to each other and contribute to making a coherent village plan.

Project planning was the biggest challenge of the Master Class. Normally an architect is given a task to design a building or an environment, but this time we came to look at an environment and a community, trying to figure out what would be the architectural interventions that would best serve the sustainable development of the community. The students had to personally involve and engage themselves in the daily life of the village, get to know and talk with as many people as possible, and get an understanding of how they live, what there is in their environment that they value, and what do they feel is missing.

The challenge for the students was to pose questions in such a manner that the people would have to expound their views – a direct yes or no would not be enough. Leading questions were banned, and instead the students were encouraged to get involved with everyday routines, cooking, football, eating etc., and while doing so, to observe and learn from local daily life. They were to underline to the community that they had come to learn and their projects were to be student projects for the university, thereby avoiding false expectations. They had to turn the communication into a reciprocal exchange of information and knowledge, in such a way that the insights of the villagers were valued and appreciated. Even though our students had little more than a football to donate to the village kids, they were warmly received due to their respectful attitude.

Needless to say, the KIST students who accompanied Aalto students to the villages were in a crucial position. Their mere presence made it easier for Aalto students to

approach the villagers, and their translations made communication possible. They helped us understand cultural locality, cross the language barriers and avoid the worst customary mistakes.

The public building projects that our students finally articulated for a detailed design, based on discussions and communication with the villagers, included youth and vocational centres, market places, women and early childhood centres and a Catholic church.

### **Embracing the uncertainty**

During the field trip, we adopted a habit of reflecting upon the day as a group over dinner. Everyone was given a peaceful moment to say what they felt and had learned that day, without interruption. In many of those reflections, uncertainty arose as the topmost feeling. Uncertainty of what there was to come, of how one would know how to deal with the communities, and of how one would be able to come up with a sensible and appropriate architectural project.

The role of the teachers at that point was to ease the pressure and assure that we were dealing with something valuable. None of us would know exactly what was to come, but having faced similar situations before, the teachers were able to make an educated guess at the outcomes. Uncertainty was something to embrace, not to fear. Only by being receptive and responsive would we gain the trust of the people we wanted to communicate with, and avoid the risk of cultural exploitation. Participatory planning is about personally engaging oneself in the debate, listening and appreciating what is being said. It is not an academic exercise; instead, it requires genuine human encounters, being present and open – and even vulnerable.

Out of this embraced uncertainty, seeing what the field trip and the projects turned out to be, grew trust and courage to throw oneself into new situations – a valuable lesson in life.

### **Kigali Master Class – an advanced design studio**

In the Kigali Master Class, the design assignment was to be discovered and justified by the students themselves. First of all, the project planning required sufficient conversance on local culture and conditions. Engaging the community and finding out the actual needs on a specific site was the greatest challenge of the master class. The students participating in the class were advanced in their architectural studies and all quite familiar with building design processes. In Kigali, it all came down to the basic questions: what is being designed or built, for whom, and why? Questioning the very principles of our profession, studying and finding answers to these questions with the people of the villages gave a whole other perspective to the profession of an architect compared with what they gained solely in their home university.

The first step of our design studio was all about getting acquainted with Rwandan culture and outlining the design task for each student. The project planning and designing for another cultural environment made the class an advanced course in the curriculum. The sequential steps of the assignment followed the structuring of a normal Aalto building design studio.

The architectural challenge our students were facing was equally demanding. Back in Finland, they had to keep in mind the context of their designs; the material palette we gathered defined a basic language for the architectural expression. With limited resources they had to concentrate on the basic elements of architecture: scale and proportions, shade and adequate ventilation, security and circulation, low-tech solutions and local materials. By toning their articulation accordingly, focusing on the essential in the architectural experience, they sought to achieve the required concentration in their architecture.



### The Artek Exhibition

The outcomes of the Kigali Master Class were exhibited at the Artek flagship store in Esplanadi, located in the very centre of Helsinki. Artek is a legendary Finnish '*sales and propaganda centre for the new housing ideology*', established in 1935 by Alvar and Aino Aalto, Maire Gullichsen and Nils-Gustav Hahl. Their core collection of furniture was designed by Alvar Aalto and other distinguished designers.

Asko Foundation's connections with Artek made it possible for us to have the Master Class projects presented at Artek Esplanad. The exhibition was open to the public between April 26 and May 11, 2014.

### LESSONS LEARNT

In our modern societies, the prevailing conditions change more rapidly than we can even comprehend. As society changes, the role of universities changes alike. They can no longer be the 'keepers of knowledge', but rather incubators for new ideas. Universities have the outstanding potential to be places where innovative minds come together, to create new connections and find alternative ways to approach the questions of development and progress.

From a pedagogical standpoint, the prevailing social constructive view of learning guides students to find their own learning zones by sharing information. Students are strongly involved in the common learning process; the contents are defined and constructed by the students themselves. Groups rather than individuals produce knowledge in productive collaboration with several intertwining disciplines.

The Kigali Master Class aimed at providing the students with a comprehensive learning experience, in which the students themselves would have an active role in the creation of knowledge. Their common endeavour to find the best alternatives for the village site plans, and to formulate their own projects to support each other in the specific context was remarkable. Embracing uncertainty became an asset when they needed to enter into interaction with new communities and unfamiliar situations. It taught them the very skills needed in order to overcome personal prejudice, bias and suspicion, allowing them to see further and wider than before.

Questioning the prevailing conditions and thinking out of the ordinary is an ability we need to cherish and cultivate in our developing educational models. In Kigali, we concentrated on the essentials of architecture, asking ourselves what kind of cities and buildings are needed and appropriate to further the sustainable development of human settlements. Architecture is the one discipline that by default brings together art and technology, sociology, economics, anthropology and many more fields. Architects need to participate in the societal discourse and take a stance on issues that they, by education, are able to influence. In order to justify our architectural interventions, we need to include questioning the essentials at the core of architectural education.

Architecture is a means of communicating the needs of a community, in order to develop its self-esteem and self-sufficiency. Project planning means articulating architectural interventions according to need. In rapidly developing cities like Kigali, architecture can be a powerful catalyst for urban development, which combines not one, but several fields of society. The Kigali Master Class and the student projects it presents have the potential to become influential in defining the Rwandan way of urbanisation, increasing urban density, and creating public buildings and spaces for the use of Rwandan communities.

This publication presents the Kigali Master Class as it was experienced by the ten students and their teachers. It collects the outcomes of the course, and presents the student work that was produced during the design studio. We hope it raises discussion and brings out differing opinions on the directions of architectural education, the

role of architecture in development, and the extraordinary case of Rwanda. The last thanks I wish to express to the Asko Foundation. Their support made possible the incredible journey we experienced. Without their support this Master Class would not have happened.

Hollmén, Saija. 'Overview.' In *Kigali Master Class with Peter Rich*, edited by Pääkkönen, Jere. Espoo: Aalto University, 2014.

## APPENDIX 8

### World in Transition (WiT) Minor

**Basic information of the minor**

**Code:** ARTS3096

**Extent:** 15-25 ECTS

**Language:** English

**Teachers in charge:** Olli Varis (ENG), Saija Hollmén (ARTS)

**Administrative contact:** Study Coordinator Sanna Tekonen

**Target group:** Master level students

**Application procedure:** Open for all master's students at Aalto University. Application procedures apply to some individual courses. More information in "Selection criteria" and course descriptions.

**Selection criteria:** Included studio courses have additional selection criteria, identified in their respective course descriptions. The used criteria varies from course to course. The course descriptions indicate to whom and how the applications will be submitted.

**Quotas and restrictions:** Lecture courses are open for all. Studio courses have maximum quotas, indicated in course descriptions. In some courses, degree students may be prioritized according to course description.

**Prerequisites:** Bachelor's degree.

**Content and structure of the minor**

The focus of WiT Minor is in long-term sustainable global development issues, such as UN's SDGs, good governance, human rights, social sustainability, climate change and innovations. It explores the dilemma of development from different perspectives. It deals with cross-cultural communication, participatory practices and community engagement in vulnerable settings, and promotes culturally sensitive professional practices in architecture, design, engineering and business.

WiT Minor exploits Problem Based Learning (PBL) and Human-Centered Design (HCD) methodologies with links to industry, civil society and academia. The WiT Minor emphasizes interdisciplinarity and mutual and reciprocal peer learning.

**Learning outcomes**

After completing WiT Minor, student will have holistic understanding of the global development related issues, regardless of their own disciplinary background. They are prepared for advanced studies in the thematic area and for further work life opportunities on the field.

Transferable skills – such as teamwork, critical thinking, judgement and decision making, communication project design, research methods, adaptability – are core learning objectives, preparing the students' expertise and knowledge to move from situated (context related) to transferable, scalable and applicable in complex professional situations.

In addition to disciplinary and context related learning outcomes, the minor aims at providing the students with an understanding in the diverse linkages and relations from technology, innovations, design and entrepreneurship to socio-culturally, economically and environmentally sustainable development. The Minor educates professionals capable of strategic spatial problem solving, planning design-led solutions for longer-term recovery, adapting to cultural variations, and coordinating and managing projects in vulnerable communities, using participatory planning methods.

**Structure of the minor**

WIT Minor consists of prerequisite courses on global development issues, followed by studio courses (see selection criteria) including a field trip, provided by Aalto School of Arts, Design and Architecture and School of Engineering.

The core courses are Interplay of Cultures (IoC) Studio and Sustainable Global Technologies (SGT) Studio, with a selection of theme related electives. In previous years, the field trips have taken Aalto students to countries such as Senegal, Benin, South Africa, Mozambique, Tanzania, Rwanda, Kenya, Uganda, Lebanon, Greece, Nepal, Cambodia, Taiwan, Philippines and Mexico. The field trip costs are (usually) on the students' responsibility.

The minor also offers courses that do not require attending a field trip. Students are also free to compose the minor from additional and optional courses only.

Code	Name	Credits (ECTS)	Selection Criteria	Prerequisites (in addition to BA degree)
<b>Prerequisite and compulsory courses</b>				
WAT-E3020	State of the World and Development L	2	open for all	
WAT-E2060	Sustainable Built Environment L	5	*) some limitations	WAT-E3020
<b>Alternative Studio courses</b>				
WAT-E2070	Sustainable Global Technologies (SGT) Studio L	10	*) some limitations	WAT-E3020 WAT-E2060
ARK-E2007	Interplay of Cultures Studio	12-18	*) some limitations	WAT-E3020 WAT-E2060
<b>Additional and optional courses</b>				
WAT-E2080	Water and Governance L	5	*) some limitations	
ARK-E2008	Interplay of Cultures, Research and Theory	3-6	*) some limitations	
21E1000	How to Change the World – Innovating toward Sustainability	6	*) some limitations	WAT-E3020
21E16001	Sustainability in Business	6		
25E18000	Sustainable Entrepreneurship	6		
	Sustainability and global value chains	6	*) some limitations	
22E29100	Accounting for Sustainability	6	*) some limitations	
REC-E3500	Urban Economics	6		
REC-E4500	Land Management	6	*) some limitations	REC-E3200
REC-E4700	Environmental Law	6		
<b>all UniPID Virtual Courses (organized min. 3 years in a row: check availability), for example:</b>				
	Introduction to Global Development and Sustainability	5	open for all	
	Migration, Development and Human Rights	5	open for all	
	Concepts of Sustainability	5	open for all	
	Global Context of Violence	5	open for all	
	Other UniPID virtual course, according to availability	5	open for all	

\*) Selection criteria applies. Students from the responsible / organizing master programme have priority.

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Baskets from Tanzania.  
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Understanding cultural differences and their relations is essential in a world marked by the complex discrepancies between various cultural interpretations. As our indigenous culture largely determines the way we see the world, it is only through a conscious decision that we are able to find mutual understanding and common ground in our search for sustainable solutions to contemporary global challenges.

This thesis discusses global sustainability, cultural locality and humanitarian crises in the framework of architectural design practice and interdisciplinary pedagogies in architectural education. It positions the discussion in the context of higher education and explores transdisciplinary and socio-cultural dimensions of architecture and their societal impacts. The overarching research question covering the main themes of the thesis is: What happens in the interface of architecture, cultures and disciplines from the point of view of university pedagogy?

The realities of architectural design practices described in this book are rooted in real life experiences in low-resource settings on African ground, tested in the field and discussed in the context of education. The aim of the research is to develop a pedagogical framework for interdisciplinary architectural education that would respond to global humanitarian challenges in a variety of cultural contexts, by forging university programmes that create connections and entry points between various disciplines.



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